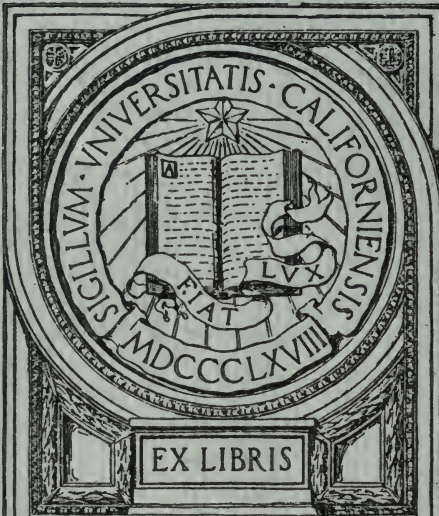


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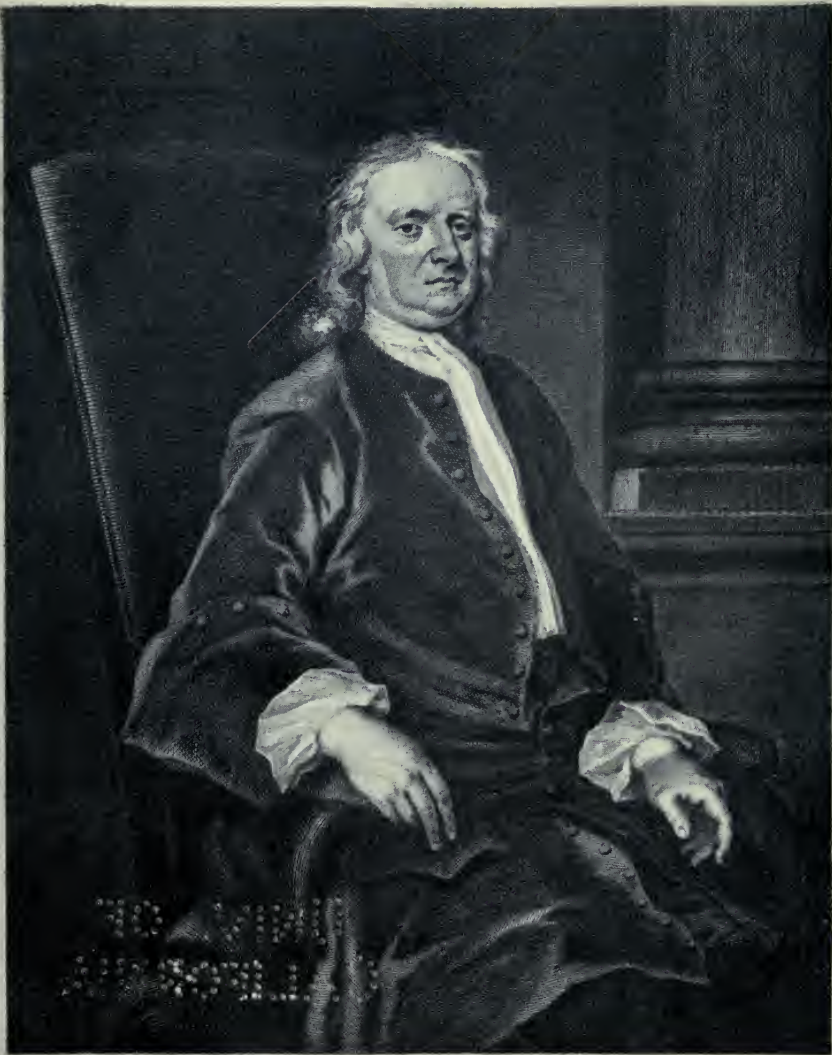
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BIBLIOTHECA
CHEMICO-MATHEMATICA.

VOLUME I.



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ISAACUS NEWTON EQ. AUR. ÆT. 83.

J. Vanderbank pinxit 1725

Geo. Vertue Sculpsit 1720.

Nos. 3258-61 (page 163).

Portrait of Sir Isaac Newton as contained in the Third Edition of the *Principia*.

THE ASTOR LENOX AND TILDEN FOUNDATION

NEW YORK

TO THE NEW YORK

BIBLIOTHECA CHEMICO-MATHEMATICA:

CATALOGUE
OF WORKS IN MANY TONGUES
ON
EXACT AND APPLIED SCIENCE,
WITH A SUBJECT-INDEX.

COMPILED AND ANNOTATED BY

H. Z.

AND

H. C. S.

*With 127 Plates,
containing 247 Portraits and Facsimiles.*

VOLUME I.

LONDON:

HENRY SOTHERAN AND CO.

(HENRY CECIL SOTHERAN)

140 STRAND, W.C.2, AND 43 PICCADILLY, W.1.

1921.

TO THE
MEMBERS OF THE
SOCIETY OF
ARTS

*Gift of J. Mangerheim
to Math. Dipl.*

The Printing begun by
G. NORMAN & SONS, Covent Garden,
and finished by
STRANGEWAYS & SONS, Tower Street, Cambridge Circus,
London, W.C.2.

PREFACE.

THIS Catalogue was begun in 1906 as that of a large collection of books in exact and applied science, and was expected to reach to about three hundred pages. It grew as it went, and by the end of the alphabet so many more works in allied subjects, as well as other and interesting copies of books already described, had come in that a Supplement was begun, still more fully annotated, which far exceeded the size of the original scheme. To this a final Supplement was added, and the whole was indexed under a full classification of subjects.

The result is, perhaps, the first Historical Catalogue of Science published in any country, at least as giving at once the current price of each book included, bibliographical particulars, and many biographical and historical references both in the descriptions themselves and in the notes. In fact, it is felt that it will be found to have very considerable human interest. The pioneers of science have never been of the dryasdust order, and still less confined to one class, but have ranged from the ancients, the Arabs, and the great company of the Mediæval and after-Reformation clergy, with the remarkable contingent of the Jesuits, to the Lord Mayor of London who first Englished Euclid. How many coluere disciplinam tenui avenâ! And how many—why not acknowledge it?—are of our own race!

As the Catalogue is one of actual books for sale it is of course not complete, but it is believed that few of the great books will be found lacking.

The complement to the Catalogue is the INDEX. There is no comprehensive bibliography of exact science, in spite of numerous lists of special subjects. These have often the defect of excluding the older works as being out of date for practical purposes. But these very books are the landmarks in the history of life. The Index, from the nature

of the Catalogue, cannot be exhaustive, but it contains nearly all the standard works, and most of the earlier works of historical importance, and will be found of great use as a Reference-list apart from the Catalogue; and, to increase its value in this way, references have been included to two large scientific catalogues issued after the *Bibliotheca Chemico-Mathematica* was printed.

The ILLUSTRATIONS have all been produced from the actual books by a photographic process, and include, besides facsimiles of illustrations and portraits, textual passages from historically important works. Many such are here reproduced for the first time.

There remains to the writer of these lines the pleasure of saying that the whole work is due to HEINRICH ZEITLINGER, of Linz on the Danube, whom he has known for so many years as an equal wellwisher of learning and of England. His own share has been the lesser one of revision and proof-reading, and of further annotation from that *Cyclopædia of Useless Knowledge* to which we all become subscribers in our journey through the world.

Lastly, to have avoided all mistakes no man can hope; but both compilers can honestly say that from beginning to end they have never forgotten the great precept of Dr. Martin Joseph Routh.

H. C. S.

Allhallowtide, 1920.

LIST OF PLATES.

	FACING PAGE
I. Portrait of SIR ISAAC NEWTON by Vertue	Title
II. ACCUM'S Treatises on Gas Light (1815-9): 2 <i>illustrations of gasworks</i>	2
III. BATE'S <i>Mysteries of Nature and Art</i> (1634): <i>engraved title</i>	15
IV. BOYLE'S <i>New Experiments Physico-Mechanical</i> (1660): <i>plate showing his air-pump</i>	28
V. BRANCA'S <i>LE MACHINE</i> (1629): <i>woodcut of his steam-engine</i>	29
VI. CAUS (I. DE). <i>New and Rare Inventions of Water-Works</i> (1659): <i>plate showing a perpetuum mobile</i>	33
VII. CARDANO'S <i>de Subtilitate</i> (1554): <i>title</i>	35
VIII. CAUS (S. DE). <i>Raisons des Forces mouvantes</i> (1615): <i>engraved title</i>	37
IX. COPERNICUS. <i>De Revolutionibus Orbium cœlestium</i> (1543): <i>title</i>	44
X. CORONELLI'S <i>Navi ò Vascelli</i> (1687): 2 <i>illustrations of ships</i>	46
XI. DAGUERRE'S <i>Procédés du Daguerrototype</i> (1839): 4 <i>illustrations of his photographic apparatus</i>	48
XII. DIGGES'S <i>Stratoticos</i> (1579): <i>title with woodcut</i>	52
XIII. ——— <i>Pantometria</i> (1591): <i>specimen of text and illustration</i>	54
XIV. EUCLIDIS <i>Elementa</i> (1482): <i>specimen of text with woodcut border and geometrical figures</i>	61
XV. FAUJAS DE ST-FOND. <i>Description et Expériences de la Machine Aérostatique</i> (1783): <i>plate showing the first balloon ascent</i>	66
XVI. GALILEO'S <i>Dialogo</i> (1632): <i>title and engraved frontispiece</i> . ——— <i>Il Saggiatore</i> (1623): <i>engraved title</i> . ——— <i>Discorsi e Dimostrazioni matematiche</i> (1638): <i>specimen of text</i>	73
XVII. GILBERT'S <i>de Magnete</i> (1600): <i>title</i>	78
XVIII. GUERICKE'S <i>Experimenta Magdeburgica</i> (1672): <i>engraved title, showing his air-pump and the Magdeburg hemispheres</i>	83
XIX. HAUKEBEE'S <i>Physico-Mechanical Experiments</i> (1709): <i>his electrical machine</i> . HEVELIUS. <i>Selenographia</i> (1647): <i>his map of the moon</i>	88
XX. HERO ALEXANDRINUS. <i>Spiritualia</i> (1575): <i>specimen of text, with woodcut of his double force-pump</i>	94
XXI. HUYGENS. <i>Horologium Oscillatorium</i> (1673): <i>illustration showing his pendulum clock</i>	99
XXII. ——— <i>Traité de la Lumière</i> (1690): <i>title and specimen of text</i> . ——— <i>De Circuli Magnitudine</i> (1654): <i>title</i> . ——— <i>Systema Saturnium</i> (1659): <i>plate showing the phases of Saturn</i>	104
XXIII. Portrait of HUYGENS by Ottens	105
XXIV. KEPLER'S <i>Harmonice Mundi</i> (1619): <i>title</i>	110
XXV. ——— <i>Dioptrice</i> (1611): <i>title and 3 specimens of text with illustrations</i>	112
XXVI. ——— <i>Astronomia Nova</i> (1609): <i>title</i>	113
XXVII. KIRCHER'S <i>Musurgia Universalis</i> (1650): <i>specimen plate</i>	115
XXVIII. LANA'S <i>Prodomo</i> (1670): <i>specimen plate showing his suggested balloon</i>	121
XXIX. LAVOISIER'S <i>Traité élémentaire de Chimie</i> (1789): <i>title of the rare first edition</i>	136
XXX. MATHEMATICI VETERES (1693): <i>specimen page with illustration</i>	144
XXXI. Portrait of JOHN NAPIER of MERCHANTON by Lizars	145
XXXII. NAPIER'S <i>Mirifici Logarithmorum Canonis Descriptio</i> (1614): <i>woodcut title</i>	159

	FACING PAGE
XXXIII. NEWTON's Opticks (1704): <i>title of the first edition</i>	162
XXXIV. ORTEGA's Arismetica y Geometria (1552): <i>woodcut title</i>	170
XXXV. OVENDEN's Description of a Machine to travel without Horses (1774): <i>plate illustrating a forerunner of the bicycle</i>	171
XXXVI. PACIOLI's Summa de Arithmetica (1494): <i>specimen of text</i>	172
XXXVII. PORTA's Spiritali (1606): <i>specimen of text with woodcut of his steam-engine</i> .	181
XXXVIII. RAMELLI's Diverse et Artificiose Machine (1588): <i>specimen plate</i>	189
XXXIX. RATHBORNE's Surveyor (1616): <i>engraved title showing surveying instruments</i>	196
XL. RECORDE's Castle of Knowledge (1556): <i>first page of text with large woodcut initial</i>	200
XLI. RONALDS's Description of an Electrical Telegraph (1823): <i>specimen plate, illustrating the first practical electric telegraph apparatus</i>	201
XLII. SALTONSTALL's Navigator (1636): <i>4 specimen pages of text, etc.</i>	206
XLIII. SACRO BOSCO's Sphæra Mundi (1526): <i>woodcut title</i>	211
XLIV. SCHOTT's Mechanica Hydraulico-Pneumatica (1657): <i>title, and plate showing his air-pump</i>	217
XLV. STEVINUS's Beghinselen der Weeghconst, etc. (1586): <i>title, and 3 specimen pages of text with woodcuts</i>	232
XLVI. STEWART's Description of a Machine (1767): <i>plate showing the first machine converting rectilinear into rotary motion</i>	233
XLVII. TAGLIENTE's Considerando . . . (1525): <i>title and specimen page of the earliest complete work on bookkeeping.</i>	
——— Lo presente Libro . . . (1525): <i>engraved title and plate of one of the earliest works on calligraphy</i>	248
XLVIII. TOURNACHON's A Terre et en l'Air (1864): <i>3 plates showing his self-feeding balloon</i>	249
XLIX. PORTRAIT OF TORRICELLI by Anichini	250
L. VALTURIO's de Re Militari (1532): <i>specimen of text with large woodcut of a curious cannon</i>	254
LI. VITRUVIUS. De Architectura (1567): <i>specimens of 4 illustrations of water-wheels and a mill</i>	259
LII. WAGENAER's Mariner's Mirror (1588): <i>engraved title</i>	263
LIII. WILKINS's Mathematicall Magic (1648): <i>4 specimens of text and illustrations</i>	264
LIV. WORCESTER's Century of Inventions (1663): <i>title and 3 specimens of text</i> .	280
LV. ZONCA's Novo Teatro di Machine (1607): <i>plate showing his siphon for perpetual motion</i>	281
LVI. PORTRAIT OF DR. THOMAS YOUNG	284
LVII. AGRICOLA. De Re Metallica (1556): <i>title and 3 specimens of illustrations</i> .	285
LVIII. APIANUS. Cosmographia (1550): <i>title, specimen illustration, and map showing America</i>	300
LIX. ——— Instrument Buch (1533): <i>title with large woodcut, showing astronomical instruments</i>	301
LX. BLUNDEVILLE his Exercises (1597): <i>title and 3 sub-titles with woodcuts</i> .	320
LXI. BOETHIUS. Arithmetica (1488): <i>first leaf of text</i>	321
LXII. BORGO's Libro de Abacho (1484 and 1488): <i>4 specimens of text of the first and second editions</i>	328
LXIII. BOURNE's Inventions or Devices (1578): <i>title and three specimens of text</i> .	329
LXIV. PORTRAIT OF THE HON. ROBERT BOYLE, F.R.S.	316
LXV. BRADWARDINE's Geometria Speculativa (1495): <i>specimen of text with geometrical figures</i>	317

LIST OF PLATES.

ix
FACING PAGE

LXVI.	BRAHE'S <i>Astronomiæ Instauratæ Mechanica</i> (1602): <i>illustration of his mural quadrant</i>	332
LXVII.	——: Portrait by P. Kilian	333
LXVIII.	BRUNO (Giordano) <i>Camæracensis Acrotismus</i> (1588): <i>title-page with an autograph inscription by the author</i>	336
LXIX.	CALANDRI'S <i>Aritmetica</i> (1518): <i>4 specimens of illustrations and text</i>	337
LXX.	DEE'S <i>Perfect Arte of Navigation</i> (1577): <i>title with large woodcut</i>	344
LXXI.	DESCARTES'S <i>Discours de la Methode</i> (1637): <i>title and 3 specimens of text with illustrations</i>	345
LXXII.	ERCKER'S <i>Mineralische Ertzt und Bergwercksarten</i> (1629): <i>title with woodcut and 3 specimens of illustrations</i>	380
LXXIII.	ETTEN'S <i>Mathematicall Recreations</i> (1633): <i>printed and engraved titles</i>	381
LXXIV.	Portrait of MICHAEL FARADAY, F.R.S.	396
LXXV.	FONTANA'S <i>Novæ Cœlestium Terrestriumque Observationes</i> (1646): <i>engraved title, portrait, and 2 specimens of text, one with illustration of the planet Mars</i>	397
LXXVI.	FULTON'S <i>Canal Navigation</i> (1796): <i>2 specimens of plates</i>	416
LXXVII.	Portrait of GALILEO GALILEI by Villamoena	417
LXXVIII.	GALVANI'S <i>De Viribus Electricitatis</i> (1792): <i>2 specimens of plates</i>	424
LXXIX.	GESNER'S <i>Practise of the New and Old Phisicke</i> (1599): <i>title and 3 specimens of text with illustrations</i>	425
LXXX.	GHALIGAI'S <i>Pratica d'Arithmetica</i> (1552): <i>title and 3 specimens of text</i>	434
LXXXI.	GLAUBER'S <i>Philosophical Furnaces</i> (1651): <i>title and 3 specimens of text with woodcuts</i>	435
LXXXII.	GREEN'S <i>Essay on the Application of Mathematical Analysis to the Theories of Electricity</i> (1828): <i>title</i>	
	HELMHOLTZ. <i>Die Erhaltung der Kraft</i> (1847): <i>title</i>	438
LXXXIII.	GREGORY'S <i>Catoptricæ et Dioptricæ Sphæricæ Elementa</i> (1713): <i>title, 2 specimens of text, and 1 of illustrations</i>	439
LXXXIV.	HAGECIUS de <i>Cervisia</i> (1585): <i>title, specimen of text, and 2 of old handwriting</i>	450
LXXXV.	HARRIS'S <i>Lexicon Technicum</i> (1704): <i>illustration of Savery's steam-engine</i>	451
LXXXVI.	HARRISON (John): <i>2 specimens of a manuscript</i>	454
LXXXVII.	HERO ALEXANDRINUS. <i>Degli Automati</i> (1589): <i>2 specimens of text and illustrations</i>	
	HERO MECHANICUS. <i>De Machin's Bellicis</i> (1572): <i>2 specimens of illustrations</i>	455
LXXXVIII.	HOOKE'S <i>Micrographia</i> (1665): <i>specimen of plate, showing his compound microscope and the wheel barometer</i>	476
LXXXIX.	HOPTON'S <i>Speculum Topographicum</i> (1611): <i>title and specimen of text, with map of America</i>	477
XC.	JACOBI'S <i>Galvanoplastik</i> (1840): <i>title and specimens of plate and text</i>	484
XCI.	Portrait of JOHANN KEPLER	485
XCII.	KEPLER'S <i>Ad Vitellionem Paralipomena</i> (1604): <i>title and specimen of plate</i>	506
XCIII.	KIRCHER'S <i>Magnes</i> (1654): <i>2 specimens of text with engravings</i>	507
XCIV.	KÖBEL'S <i>Geometrei</i> (1563): <i>title and specimen of text, both with woodcuts by Jost Amman</i>	510
XCV.	Portrait of LAPLACE	511
XCVI.	LAUREMBERG'S <i>Institutiones Arithmeticæ</i> (1636): <i>title and specimen of text</i>	
	STRÜBI'S <i>Arithmetica</i> (1599): <i>title and specimen of text</i>	516
XCVII.	LAZESIO'S <i>Libro de Abaco</i> (1518): <i>title with large woodcut, and specimen of illustrations</i>	517

	FACING PAGE
XCVIII. LÖHNEYSS'S Bericht vom Bergwerck (1619): <i>specimen plate</i>	532
XCIX. LONDON'S Catalogue of Books in England (1658): <i>title and 3 specimens of text</i>	533
C. MASTERSON'S Arithmetice (1592): <i>title and specimen plate</i>	580
CI. MEIBOM'S Antiquæ Musicæ Auctores (1652): <i>title and specimen of text with musical notation</i>	581
CII. MELANCHTHON'S Doctrinæ Physicæ Elementa (1550): <i>title and specimen of text</i>	596
CIII. Portrait of SIR SAMUEL MORLAND	597
CIV. MURDOCK'S Letter to a Member of Parliament (1809): <i>title and specimen of text</i> . — Account of the Application of Gas (1808): <i>first page</i> . — Remarks upon the Bill . . . (1809): <i>title</i>	614
CV. NAPIER'S Rabdologia (1617): <i>title and 2 specimens of plates</i>	615
CVI. NEWTON'S Principia (1687): <i>title of the first issue of the first edition</i>	626
CVII. ——— Opticks (1717): <i>page 382, with additions in Newton's handwriting</i>	627
CVIII. ——— Commercium Epistolicum (1712): <i>title and address to the reader</i>	628
CIX. NORTON'S Gunner (1628): <i>woodcut title and table of contents</i>	629
CX. PAPIN'S Manière d'amolir les Os (1682): <i>plate showing his digester</i>	644
CXI. ——— Nouvelles Machines et Inventions extraordinaires (1698): <i>2 plates showing his steam-engine and centrifugal pump</i>	645
CXII. PASCAL'S Triangle Arithmetique (1665): <i>text and plate of the arithmetical triangle</i>	660
CXIII. PASI'S Tariffa de Pesi e Mesure (1503): <i>title with large woodcut and specimen of text</i>	661
CXIV. PATHWAY TO KNOWLEDGE (1596): <i>title</i>	676
CXV. PORTA'S Magiæ Naturalis Libri IV. (1558): <i>title</i> . — ——— ——— Libri XX. (1589): <i>woodcut title</i>	677
CXVI. RAIL-WAY, Observations on a General Iron (1823): <i>frontispiece showing steam-coaches, etc., with engines</i>	692
CXVII. REISCH'S Margarita Philosophica (1512): <i>woodcut title and specimen woodcut</i>	693
CXVIII. RIESE'S Rechnung auff der Linien und Federn (1605): <i>title with portrait, and specimen of text</i>	708
CXIX. ROWE'S All Sorts of Wheel-Carriages improved (1734): <i>specimen plate, and illustration of a 'rolling cart'</i>	709
CXX. STEPHENSON'S Safety Lamp (1817): <i>4 specimens of plates</i>	758
CXXI. STÖFFLER'S Calendarium Romanum Magnum (1518): <i>specimen of text with woodcuts</i>	759
CXXII. SUTHERLAND'S Britain's Glory (1729): <i>portrait of George I., surrounded by the 257 ships of the Royal Navy</i>	770
CXXIII. TAISNIE'S De Natura Magnetis (1562): <i>title, portrait, and 2 specimens of text with illustrations</i>	771
CXXIV. TRIEWALD'S Eld- och Luft-Machin (1734): <i>plate showing the first steam-engine in Sweden</i>	774
CXXV. VERANZIO'S Machinæ Novæ (c. 1595): <i>plate giving the first illustration of a parachute</i>	775
CXXVI. BAYER'S Uranometria (1603): <i>specimen plate of the first star-atlas with Greek lettering</i>	786
CXXVII. BRUNSWYG'S Buch zu Distillieren (1519): <i>specimen plate with woodcut</i>	787

LIST OF AUTHORITIES CONSULTED.

- Allibone (S. A.) *Critical Dictionary of English Literature*. 5 vols. 1858-91.
- Ball (W. W. R.) *Mathematical Recreations and Problems*. 1892.
- *Short Account of the History of Mathematics*. 1908.
- Barbier (A. A.) *Dictionnaire des Ouvrages Anonymes*. 4 vols. 1872-9.
- Biographie (Allgemeine deutsche), 56 vols. 1875-1912.
- Biographie Générale (Nouvelle), publiée sous la Direction du Dr. Hoefer. 46 vols. 1855-66.
- Brewster (Sir D.) *Memoirs of the Life, Writings, and Discoveries of Sir Isaac Newton*. 2 vols. 1855.
- British Museum Catalogue of Books to 1640. 3 vols. 1884.
- Brockhaus's *Konversations-Lexikon*. 17 vols. 1894-5.
- Brown (R.) *History of Accounting and Accountants*. 1905.
- Brunet (J. C.) *Manuel du Libraire*. 6 vols. 1860-5.
- Cajori (F.) *History of Mathematics*. 1894.
- *History of Physics*. 1899.
- Cantor (M.) *Vorlesungen über Geschichte der Mathematik*. 4 vols. 1880-1908.
- Chambers's *Encyclopædia*. 10 vols. 1895.
- Clerke (Agnes M.) *Popular History of Astronomy during the XIX. Century*. 1893.
- Copinger (W. A.) *Supplement to Hain's Repertorium Bibliographicum*. 3 vols. 1895-1902.
- Darmstädter (L.) *Handbuch zur Geschichte der Naturwissenschaften und der Technik*. 1908.
- Dictionary of National Biography*. 69 vols. 1885-1912.
- Dircks (H.) *Perpetuum Mobile*. 2 vols. 1861-72.
- Ebert (F. A.) *Allgemeines bibliographisches Lexikon*. 2 vols. 1821-30.
- Ferguson (J.) *Bibliotheca Chemica*. 2 vols. 1906.
- Grant (R.) *History of Physical Astronomy*. 1852.
- Gray (G. J.) *Bibliography of the Works of Sir Isaac Newton*. 1907.
- Glaisher (J. W. L.) *Report on Mathematical Tables*. 1873.
- Hain (L.) *Repertorium Bibliographicum*. 2 vols. 1826-32.
- Halkett (S.) and J. Laing. *Dictionary of the Anonymous and Pseudonymous Literature of Great Britain*. 4 vols. 1882-8.
- Heller (A.) *Geschichte der Physik*. 2 vols. 1882-4.
- Hoefer (F.) *Histoire de la Chimie*. 2 vols. 1866-9.
- Hoppe (E.) *Geschichte der Elektrizität*. 1884.
- Houzeau et Lancaster. *Bibliographie générale de l'Astronomie*. 2 vols. 1882-9.
- Hutton (C.) *Philosophical and Mathematical Dictionary*. 2 vols. 1815.
- Kopp (H.) *Geschichte der Chemie*. 4 vols. 1843-7.
- Libri (G.) *Histoire des Sciences mathématiques en Italie*. 4 vols. 1838-41.
- , *Catalogue of the Mathematical, Historical, Bibliographical and Miscellaneous Portion of the celebrated Library of*. 2 vols. 1861.
- Lowndes (W. T.) *The Bibliographer's Manual of English Literature*. 6 vols. 1857-64.
- Mach (E.) *The Science of Mechanics*. 1893.
- Meyer (E. v.) *History of Chemistry*. 1891.
- Montucla (J. É.) *Histoire des Mathématiques*. 4 vols. 1799-1802.
- *Histoire des Recherches sur la Quadrature du Cercle*. 1831.
- Morgan (A. de). *Arithmetical Books*. 1847.
- *A Budget of Paradoxes*. 1872.
- Nelthropp (H. L.) *Treatise on Watch-Work*. 1873.

- Poggendorff (J. C.) Biographisch-literarisches Handwörterbuch zur Geschichte der exakten Wissenschaften, 2 vols. 1863.
 ——— Geschichte der Physik. 1879.
 Preston (T.) The Theory of Heat. 1904.
 ——— The Theory of Light. 1895.
 Riccardi (P.) Biblioteca Matematica Italiana. 1893.
 Ronalds Library, Catalogue of the. 1880.
 Roscoe (Sir H. E.), and C. Schorlemmer. Treatise on Chemistry. Vols. I-II. 1894-7.
 Rose (H. J.) New General Biographical Dictionary. 12 vols. 1848-50.
 Royal Society of London, Record of the. 1902.
 Stuart (R.) Historical and Descriptive Anecdotes of the Steam Engine. 2 vols. 1829.
 Thompson (S. P.) Elementary Lessons in Electricity and Magnetism. 1895.
 ——— Notes on the *De Magnete* of Dr. William Gilbert. 1900-1.
 Thurston (R. H.) History of the Growth of the Steam Engine. 1879.
 Todhunter (I.) History of the Mathematical Theories of Attraction and of the Figure of the Earth. 2 vols. 1873.
 ——— History of the Mathematical Theory of Probability. 1865.
 ——— History of the Progress of the Calculus of Variations. 1861.
 ——— History of the Theory of Elasticity. 3 vols. 1886-93.
 Turnor (C. H.) *Astra Castra*. 1865.
 Waite (A. E.) Lives of Alchemystical Philosophers. 1888.
 Watt (R.) Bibliotheca Britannica. 4 vols. 1824.
 Wilde (H. E.) Geschichte der Optik. 2 vols. 1838-43.
 Wolf (H.) Geschichte der Astronomie. 1877.
 Wolf (R.) Handbuch der Physik, Geodäsie und Astronomie. 2 vols. 1870.
 Wood (E. J.) Curiosities of Clocks and Watches. 1866.

Messrs. Sotheran's Catalogues referred to in the Index.

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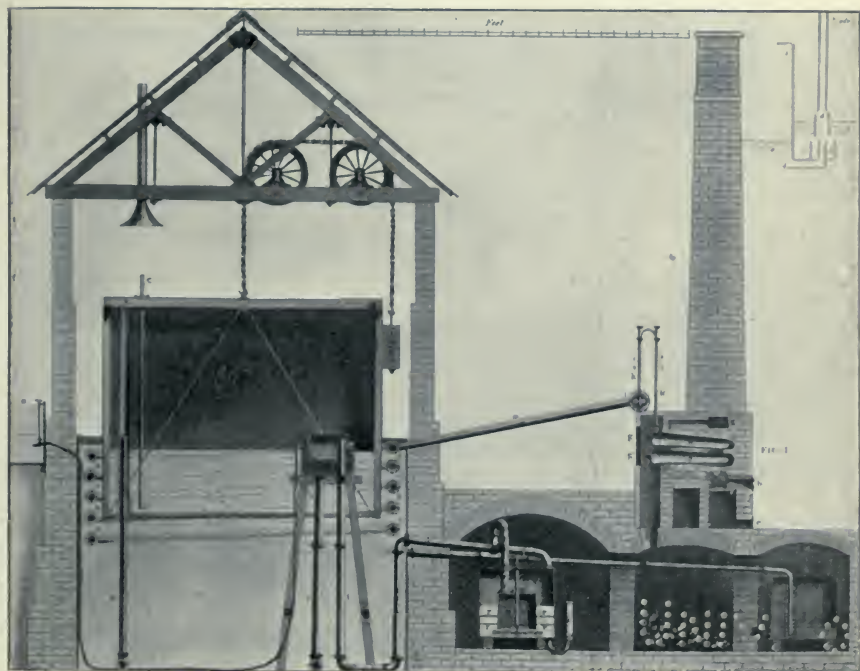
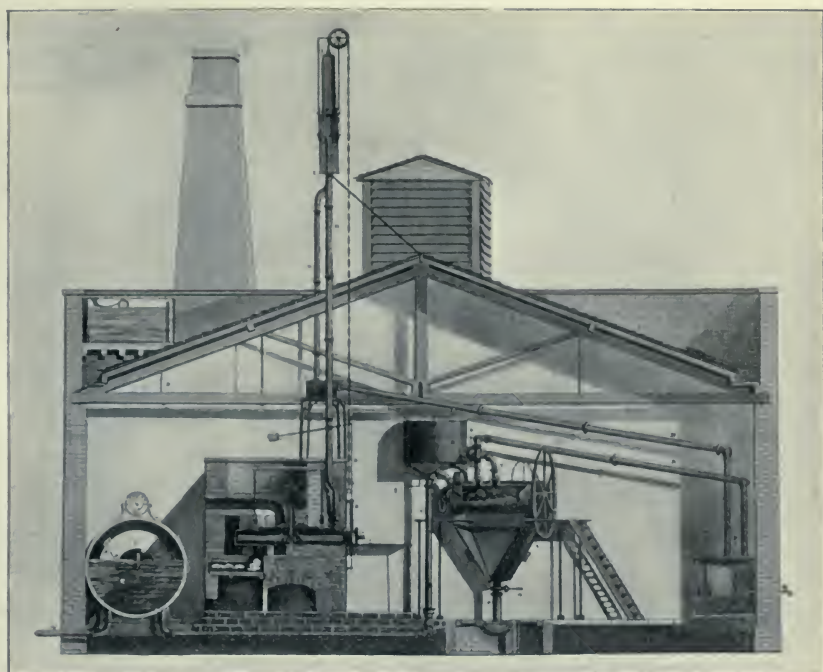
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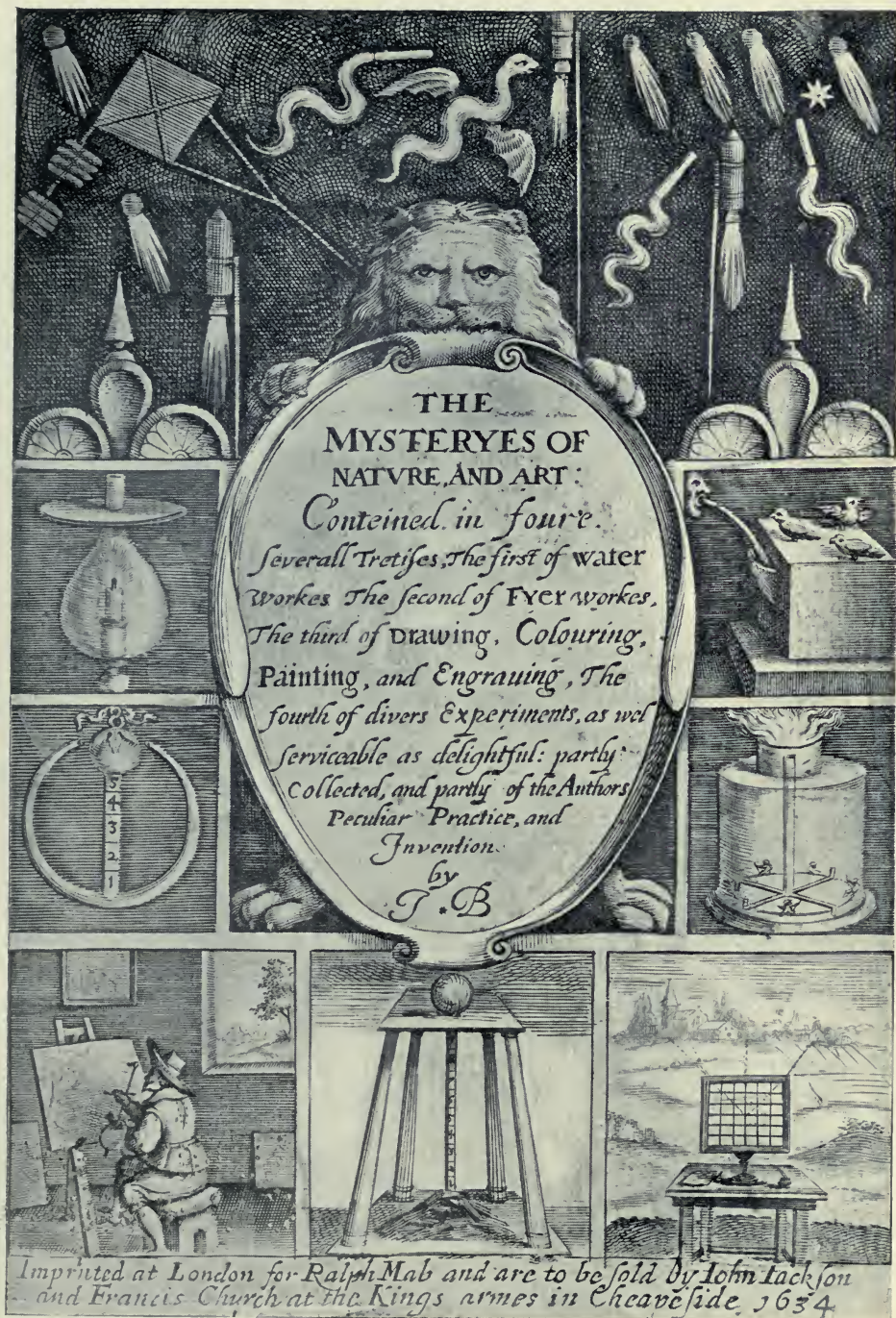
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- 466 ——— *TREATISE on DIFFERENTIAL EQUATIONS, first edition, plate*; with the *Supplementary Volume* [ed., with Preface, by ISAAC TODHUNTER, F.R.S.], 2 vols. post 8vo., *hf. calf (backs not uniform)*; VERY SCARCE, £1. 2s 6d *Cambridge*, 1859-65
- 467 ——— *ANOTHER COPY, original cl., uncut, £1. 5s*
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- 468 ——— *TREATISE on the CALCULUS of FINITE DIFFERENCES, first edition*, post 8vo. *hf. calf (SCARCE)*, 15s *ibidem*, 1860
- 469 ——— *ANOTHER COPY, cl., uncut, £1. 1s*
The above copy belonged to PROF. ARTHUR CAYLEY, F.R.S., and has added two original equations in his handwriting on pp. 24 and 27. It also bears the inser. 'From the Author'.
- 470 ——— *SECOND EDITION*, by SIR JOHN FLETCHER MOULTON, L.J., post 8vo. *cl. (SCARCE)*, £1. 1s 1872
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- 476 **BORGIO (Pietro):** LIBRO di ABACHO [p. 2a:] Qni comēza la nobel opera de arithmeticha laqual se tracta tute cose a merchātia pertinente facta e cōpilata per Miser Piero bōrgi da Venesia, cr. 4to. boards (blank corner stained, otherwise sound copy with good margins); VERY RARE, £4. 4s
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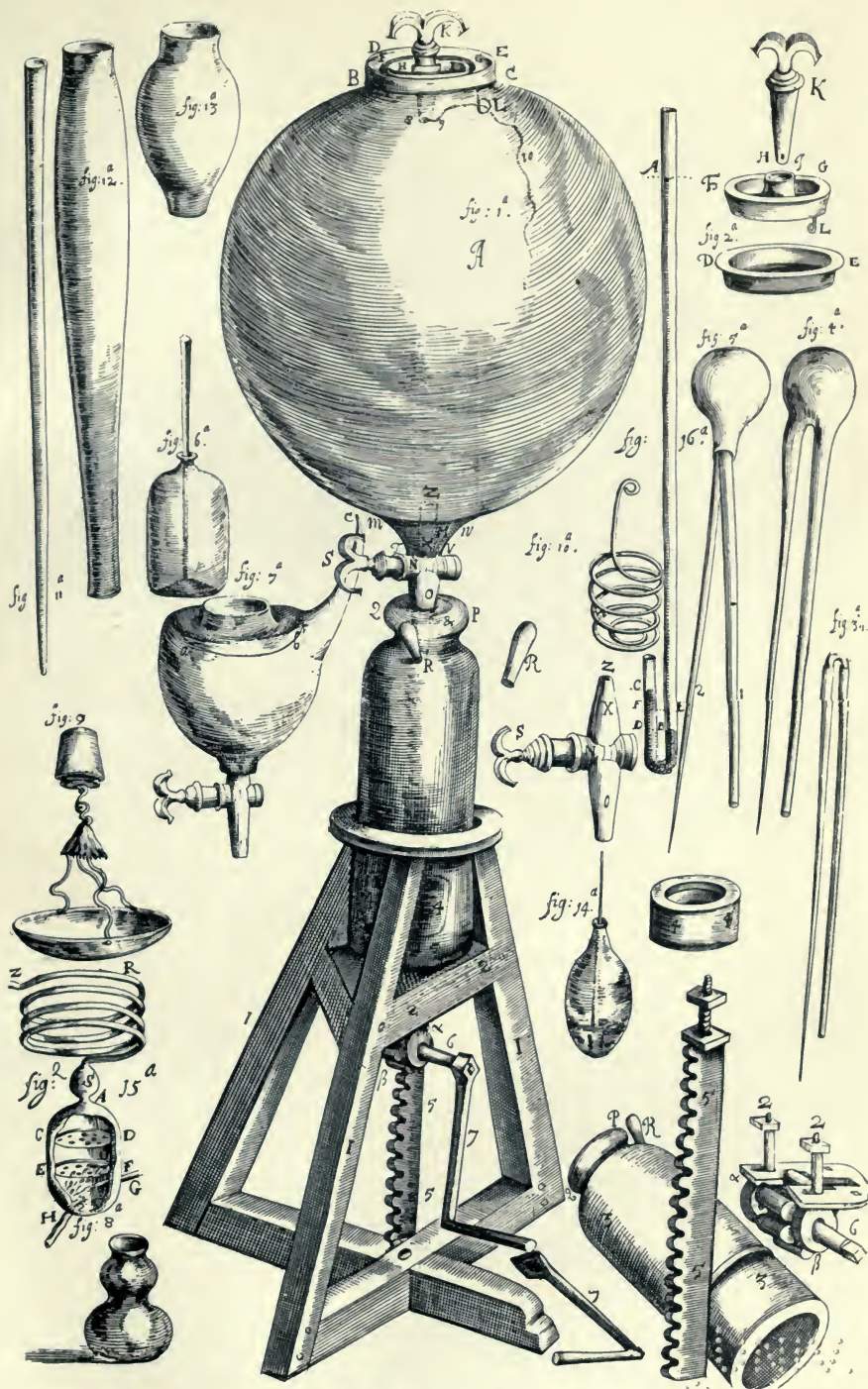
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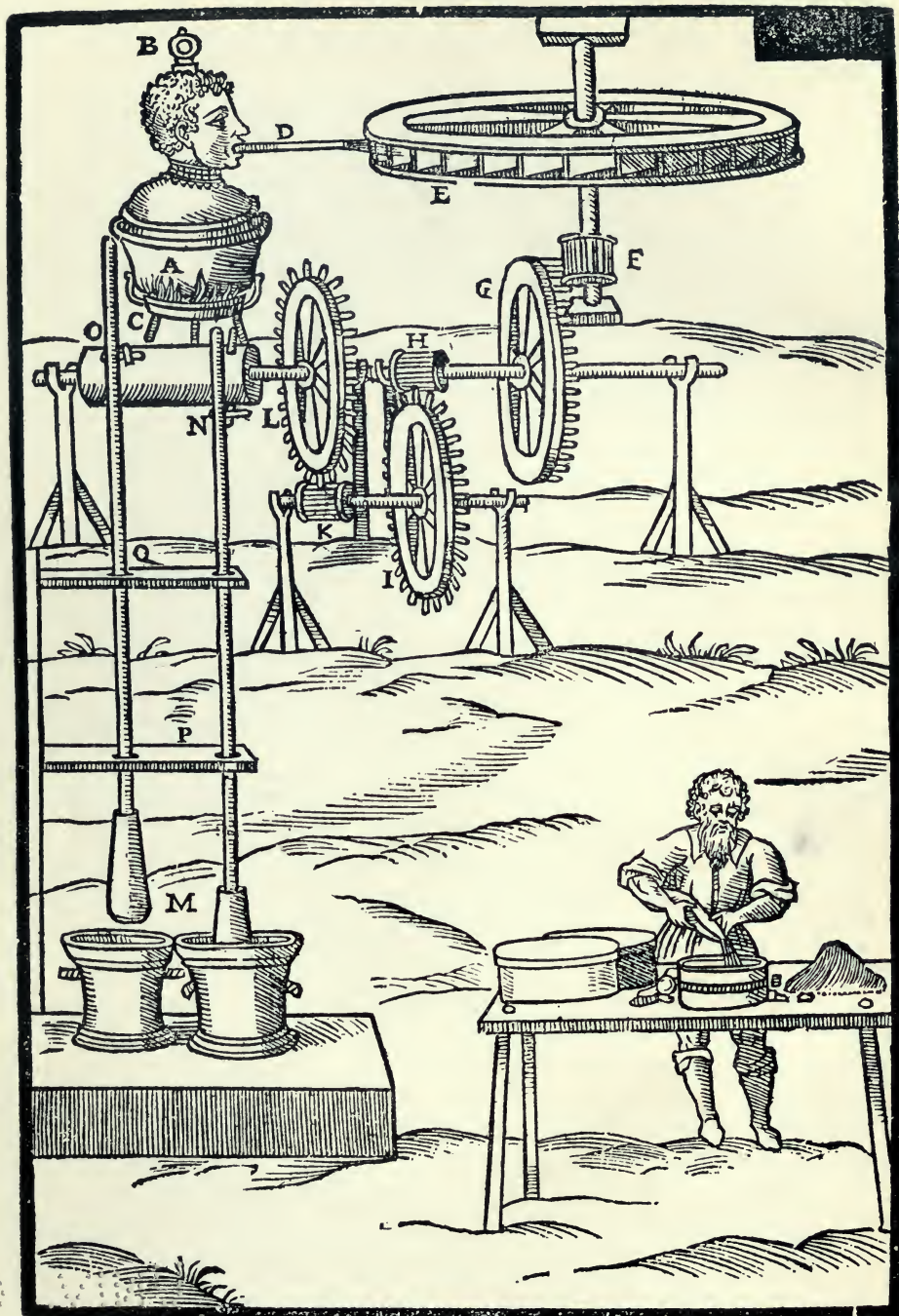
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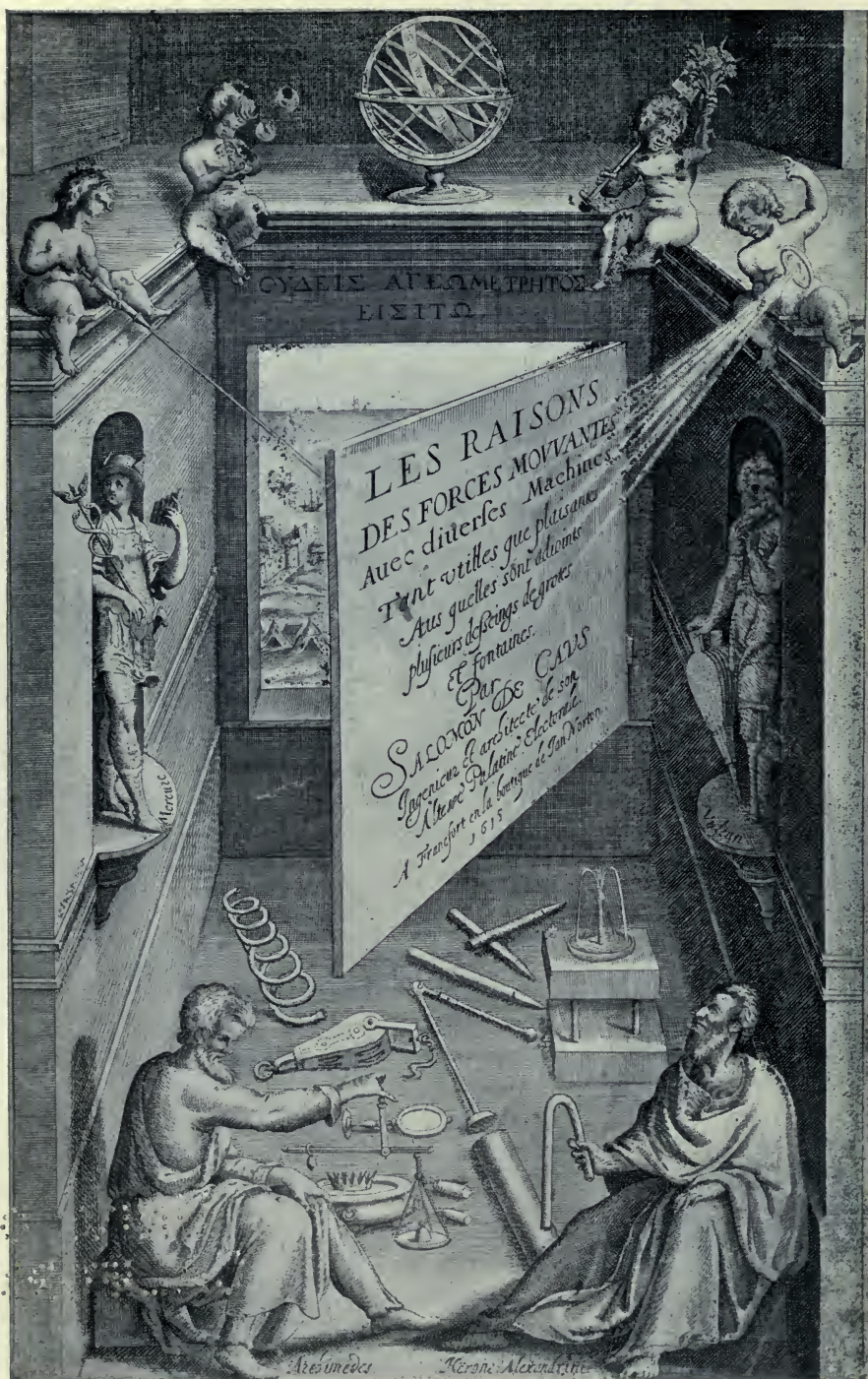
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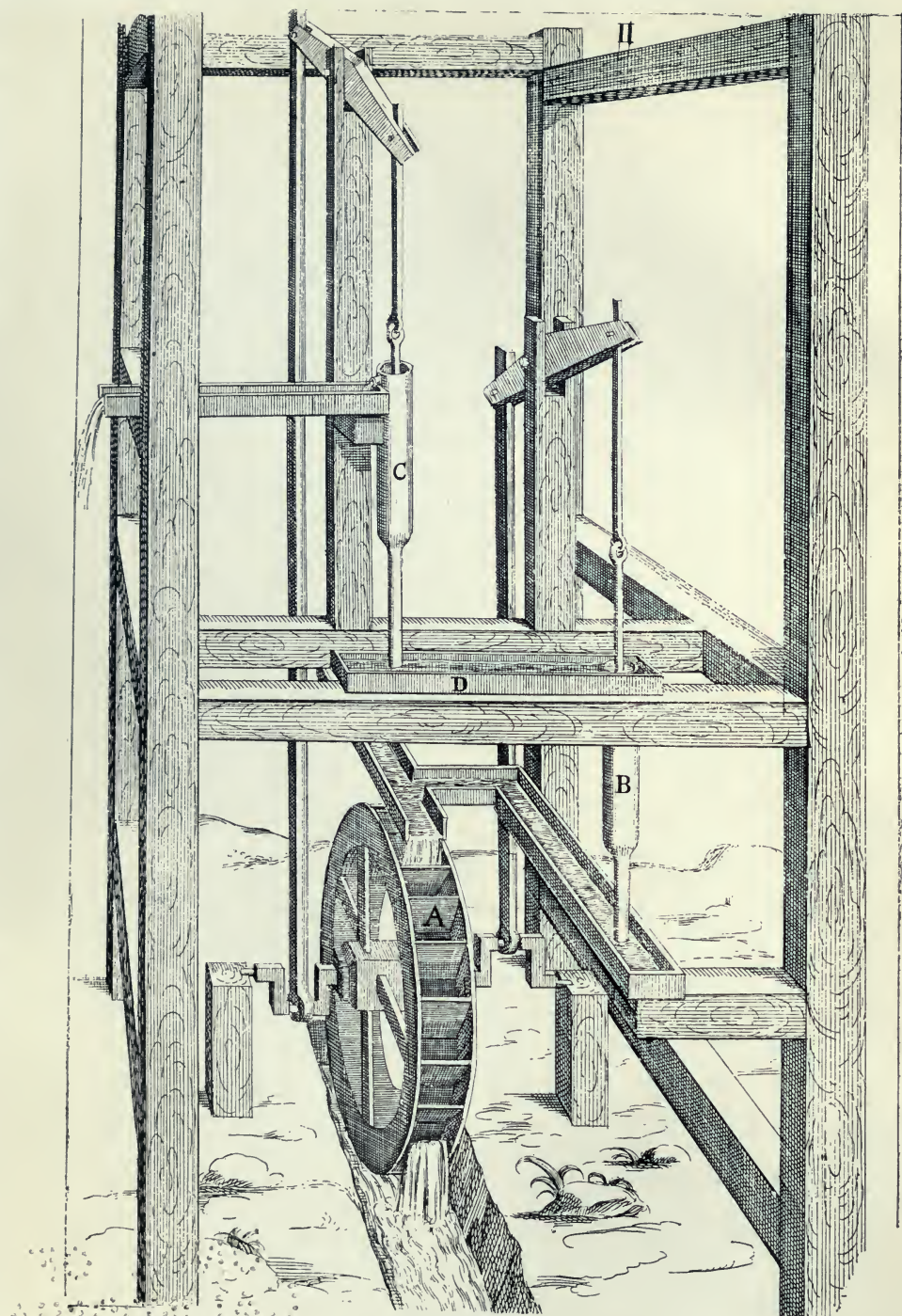
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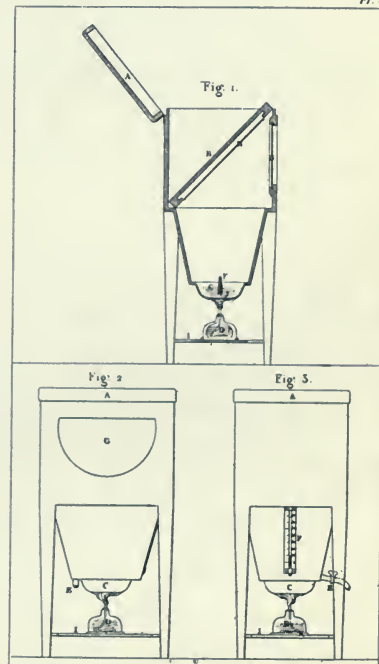
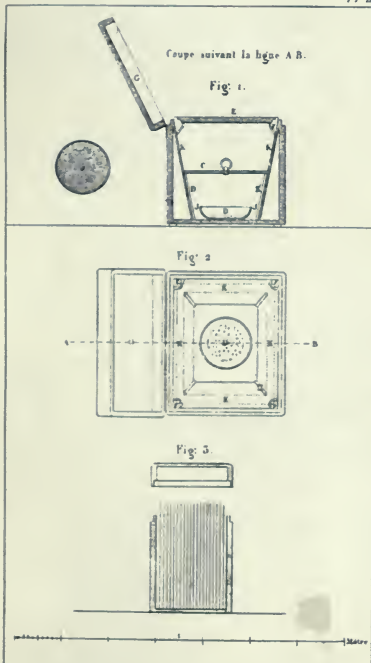
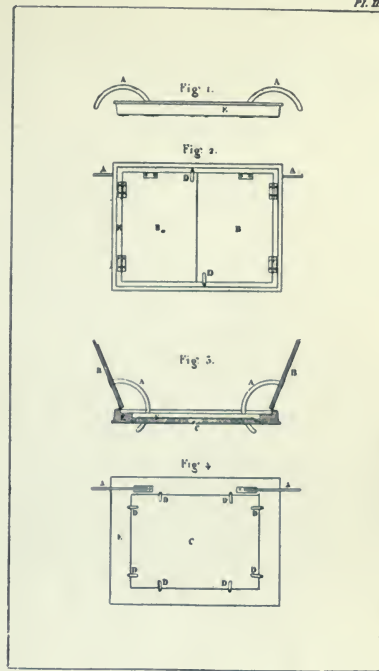
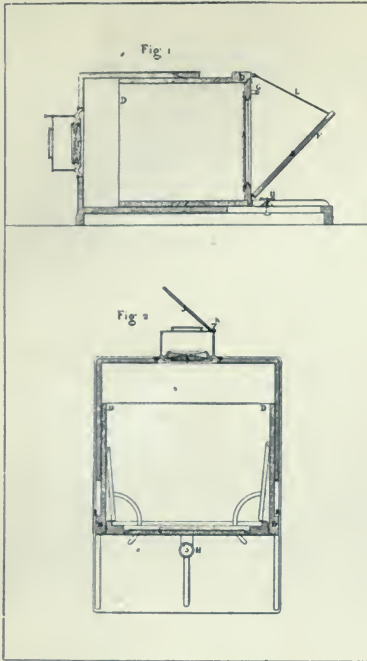


No. 873 (page 45).

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See HARTMAN (G.), *post*.

- 1054 **DIGGES (Leonard)**: *An ARITHMETICALL MILITARE TREATISE, named STRATOTICOS*; compendiously teaching the SCIENCE of NÜBERS, as well in FRACTIONS as INTEGERS, and so much of the RULES and AEQUATIONS ALGEBRAICALL and ARTE of NUMBERS COSSICALL, as are requisite for the PROFESSION of a SOLDIOUR. Together with MODERN MILITARE DISCIPLINE, OFFICES, LAWES and DUTIES in euery wel gouerned CAMPE and ARMIE to be obserued: Long since attemped by LEONARD DIGGES Gentleman, Augmented, digested, and lately finished, by THOMAS DIGGES, his Sonne. Whereto he hath also adioyned certaine QUESTIONS of GREAT ORDINAUNCE, first edition, *with the Earl of Leicester's arms on rev. of title, woodcut (twice repeated) of Military Camp, ornamental woodcut-initials, arms (on p. 72), diagrams and folding plan*, sm. 4to. *partly in black letter; newly and finely bound in mottled calf gilt, r.e., by W. PRATT (title slightly mended, and colophon and part of device on last leaf missing, otherwise a LARGE AND FINE COPY)*; very rare, £8. 8s Henrie Bynneman, 1579

The first edition of this work is excessively rare, no copy having happened for sale for many years. A second edition was published in 1590.

'He [Thomas Digges] became very proficient in mathematical and military matters, having spent many years 'in reducing the sciences mathematical from demonstrative contemplations to experimental actions', in which he was aided by his father's observations, and by conferences with the rarest soldiers of his time.'—*D. N. B.* In 1582 he was chosen by the Privy Council overseer of the works and fortifications at Dover Harbour. Tycho Brahe praised him highly in a letter to Sir Thomas Savelle, dated Dec., 1590.

- 1055 ——— *A BOOKE* named TECTONICON, briefly showing the EXACT MEASURING, and speedie reckoning of all manner of Land, Squares, Timber, Stone, Steeples, Pillers, Globes, etc. Further, declaring the perfect making and large USE of the CARPENTERS RULER, containing a QUADRANT GEOMETRICALL: comprehending also the RARE VSE of the SQUIRE. And in the end a little Treatise on the composition and appliances of . . . the PROFITABLE STAFFE, etc. etc., *with woodcuts, diagrams, and folding table*, sm. 4to. *black letter; seven (wanting 1 folding table, water-stained, and a few headlines shorn)*; RARE, £1. 10s F. Kynston, 1625

There is no copy of this edition in the British Museum. Digges is probably rightly credited with having anticipated the discovery of the telescope.

- 1056 **DIGGES (Thomas)**: [*A GEOMETRICAL PRACTISE, called PANTOMETRIA, divided into three Bookes, Longimetra, Planimetra, and Steriomietra, containing Rules manifolde for mensuration of all lines, Superficies, and Solides . . . framed by LEONARD DIGGES, lately finished by THOMAS DIGGES his sonne. Who hath also thereunto adjoynd a MATHEMATICAL TREATISE of the FIVE REGULAR PLATONICALL BODIES and their METAMORPHOSIS or transformation into five other equilater uniforme solides Geometricall, of his owne invention, hitherto not mentioned by any Geometricians*], first edition, *with numerous ingenious woodcuts, diagrams, and arms and printers' device on last leaf*, sm. 4to. *partly in black letter; seven (title missing and first leaf defective; also small hole burnt through a few ll.)*; VERY RARE, £2. 10s H. Bynneman, 1571

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- 1057 ——— SECOND EDITION: *A GEOMETRICAL PRACTICAL TREATIZE* named PANTOMETRIA . . . lately reviewed by the AUTHOR himselfe, and AUGMENTED with sundrie Additions, Difinitions [*sic*], Problemes and rare Theoremes, to open the passage, and prepare away to the vnderstanding of his Treatize of MARTIALl PYROTECHNIE and great ARTILLERIE, hereafter to be published, *with numerous woodcuts and diagrams, and shield of arms, pott folio, partly in black letter; sound tall copy in hf. roan, with auto. 'John Hill, 1697' on p. 195* (VERY RARE), £6. 6s Abell Jeffes, 1591

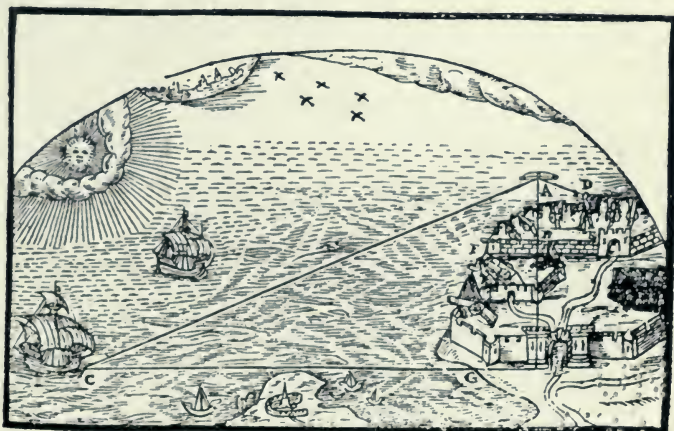
'Thomas Digges ranks among the first mathematicians of the XVI. century. Although he made no great addition to science, yet his writings tended more to its cultivation than perhaps all those of other writers on the same subjects put together.'—*J. O. Halliwell-Phillips*.

'The 21st chapter of the first book includes a remarkable description of 'the marvellous conclusions that may be performed by glasses concave and convex, of circular and parabolic forms. He practised, we are there informed, the 'multiplication of beams' both by refraction and reflexion; knew that the paraboloidal shape 'most perfectly doth unite beames, and most vehemently burneth of all other reflecting glasses', and had obtained with great success magnifying effects from a combination of lenses . . . The assertion that [Leonard] Digges anticipated the invention of the telescope is fully justified.'—*Miss Agnes M. Clerke*.

The 21 Chapter

Howye may most pleasantly and exactly with a plaine glasse from
an high cliffe, measure the distance of any Shippe or
Ships on the Sea, as followeth.

The best kinde of Glasse for this purpose is of Steele finely pulled, so
that the Superficies thereof bee smooth, neither conuexe nor con-
cave, but flat and plaine as may be possible. This Glasse it beho-
ueth yee to hang by 'aboue the top of the cliffe with the pulled side
downeward equidistant to the Horizon wherein you must vse great
diligence, for if there happen any error in the situation thereof, great
inconuenience may followe in your mensuration. This done, let a
plumbe line fall from the Centre of your Glasse to the Superficies
ground platte on the top of the cliffe: (which ground platte) also you must vse some dili-
gence in the choise thereof, that it be as leuell and plaine as ye can finde any, but if it be not
altogether euen or exact leuell, yee shall supplie that wante as I shall hereafter shewe you:
but to returne to the purpose, your Glasse thus situate, turning your face toward the ship
or other marke on the sea, whose distance yee desire, goe backward, alway hauing your eye
fired on the Glasse till such time as ye can see the Ship, or rather the very Hull nexte to the
water therein, that done, let another plumbe line fall from your eye to the ground, then cir-
cumspcctly measure both the length of these plumbe lines, and also the distance betwene
this plumbe line and the other that fell from the Centre of the Glasse, it is done, yee shall
deduct the length of the perpendicular from your eye, out of the length of the other perpen-
diculare from your Glasse, and the difference serue for a Diuisor, then multiplie the di-
stance of the two perpendicular lines, by the height of the Cliffe, I meane from the water
vnto the Glasse, and the product diuide by your seruued Diuisor, the Quotient will
shew you the exact distance to the Ship or marke. But if your ground be not leuell, ye shall
by your Quadrant search the difference or inequality thereof, and if it bee lower at the
Glasse than at the biewing station, you shall deduct the difference from your Diuisor, but
if contrariwise, the difference shall be added to the Diuisor, and then shall yee worke as I
haue before declared.



C 2

Ex. mpla.

No. 1057.

The celebrated account (printed in 1591) anticipating the invention
of the Telescope (ascribed to Galileo, A.D. 1609).

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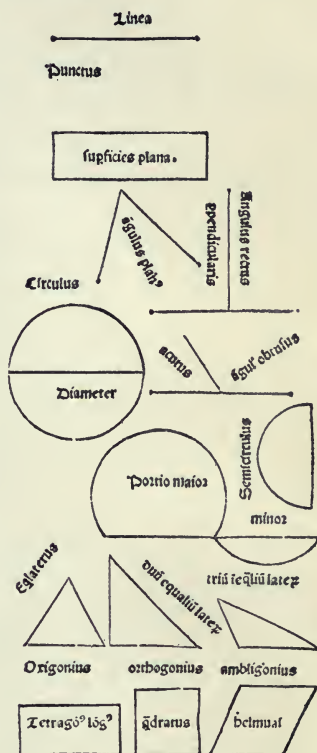
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est ab uno puncto ad aliū brevissima exten-
sio in extremitates suas utriusque eorum reci-
piens. **S**upercies est quod longitudine et lati-
tudine terminatur: cuius termini quidē sunt linee.
Supercies plana est ab una linea ad al-
iam extenso in extremitates suas recipiens.
Angulus planus est duarum linearum al-
ternis tractus: quare expansio est super super-
ficiē applicatioque non directā. **Q**uando autem angulum principit due
linee recte rectilineus angulus nominatur. **Q**uā recta linea super rectā
steterit duorumque anguli utrobique fuerit æquales: eorum uterque rectus erit.
Lineaque linee superflue est cui superflue perpendicularis vocatur. **A**n-
gulus quoque qui recto maior est obtusus dicitur. **A**ngulus quoque minor re-
cto acutus appellatur. **T**erminus est quod uniuscuiusque terminus est. **F**igura
est quod terminis terminatur. **C**irculus est figura plana una quodam li-
nea perita: quod circumferentia nominatur: in cuius medio punctus est: a quo omnes
linee recte ad circumferentiā exeuntes sibi invicem sunt æquales. **E**t hic
quidē punctus centrum circuli dicitur. **D**iameter circuli est linea recta que
super eum centrum transiens extremitatibusque suis circumferentiā applicans
circulū in duo media dividit. **S**emicirculus est figura plana dia-
metro circuli et medietate circumferentię perita. **P**ortio circu-
li est figura plana recta linea et parte circumferentię perita: semicircu-
lo quidē aut maior aut minor. **R**ectilineę figure sunt quę rectis li-
neis continentur quarum quedam trilaterę quę tribus rectis lineis: quedam
quadrilaterę quę quatuor rectis lineis. quedam multilaterę que pluribus
quę quatuor rectis lineis continentur. **F**igurarum trilaterarum: alia
est triangulus huiusmodi tria latera equalia. Alia triangulus duo huiusmodi
equalia latera. Alia triangulus trium inequalium laterum. **H**æc iterum
alia est orthogonius: unum scilicet rectum angulum habens. Alia est am-
bigonius aliquem obtusum angulum habens. Alia est oxigonius
in qua tres anguli sunt acuti. **F**igurarum autem quadrilaterarum
Alia est quadratum quod est equilaterum atque rectangulum. Alia est
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(I)

DIALOGO DI GALILEO GALILEI LINCEO MATEMATICO SOPRAORDINARIO DELLO STUDIO DI PISA. E Filosofo, e Matematico primario del SERENISSIMO GR.DVGA DI TOSCANA.

Doue ne i congressi di quattro giornate si discorre
sopra i due

MASSIMI SISTEMI DEL MONDO
TOLEMAICO, E COPERNICANO;

*Proponendo indeterminatamente le ragioni Filosofiche, e Naturali
tanto per l'una, quanto per l'altra parte.*

CON PRI



VILEGI.

IN FIRENZA, Per Gio:Batista Landini MDCXXXII.

CON LICENZA DE' SUPERIORI.

(II.)

DEL GALILEO.

171

spatia tempore eodem ad duobus mobilibus peracta, quorum
unum motu ex quiete uniformiter accelerato moveatur, al-
terum vero motu æquabili juxta momentum subduplum
momenti maximi velocitatis accelerati motus. quod erat
intentum.

THEOR. II. PROPOS. II.

*Si aliquod Mobile motu uniformiter accelerato descendat ex quie-
te spatia, quibuscumque temporibus ab ipso peracta, sunt inter
se in duplicata ratione eorundem temporum: nempe ut eo-
rundem temporum quadrata.*

Intelligatur fluxus temporis ex aliquo primo
instanti A representari per extensionem A B; in
qua sumantur duo quælibet tempora, A D, A E;
sitque H I linea in qua mobile ex puncto H, tan-
quam primo motus principio, descendat uni-
formiter acceleratum, sitque spatium H L per-
actum primo tempore A D; H M vero sit spatium
per quod descenderit in tempore A E. Dico,
spatium M H ad spatium H L, esse in duplicata
ratione ejus quam habet tempus E A ad tempus
A D. Seu dicamus, spatia M H, H L, eandem ha-
bere rationem quam habent quadrata E A, A D.
Ponatur linea A C, quæcunque angulum cum
ipsa A B continens: ex punctis vero D E ductæ
sint parallelæ D O, E P; quæcum D O represen-
tabit maximum gradum velocitatis acquisitæ
in instanti D temporis A D; E P vero maximum
gradum velocitatis acquisitæ in instanti E tem-
poris A E. Quia vero supra demonstratum est,
quod attinet ad spatia peracta, æqualia esse in-
ter se illa, quorum alterum conficitur à mobili
ex quiete motu uniformiter accelerato; alte-
rum vero, quod tempore eodem conficitur, à mobili motu
Y 2 æquabili



(IV.)

I. and IV. No. 1439. Engraved and Printed Title of the first edition of
this celebrated work.

II. No. 1445. The famous passage on accelerated fall. III. No. 1447.

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LAST AND BEST EDITION of Galileo's complete works, including his life his disciple by Viviani, and the former's valuable CORRESPONDENCE with some of his most celebrated contemporaries, in itself forming valuable material on the state of science during the beginning of the XVII. century, and the history of his time.

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Firenze, G. B. Landini, 1632

FIRST EDITION of this epoch-making work, a masterly defence of the Copernican system, but causing its author's imprisonment, and—as has been stated—his being put to the torture.

The work having been rigidly suppressed, not only for its 'heretical' views, but also for having offended Pope Urban VIII.'s vanity, who believed himself satirised as the dull interpreter of the Aristotelian system, the first edition has become EXCESSIVELY RARE.

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The second separate edition of the 'Dialogo', having several letters, including that to the Duchess of Tuscany, added.

BUFFON'S COPY:

- 1441 — **SYSTEMA COSMICUM**: in quo Dialogis IV de duobus maximis Mundi Systematibus, Ptolemaico et Copernicano, Rationibus utrinque propositis indefinitè disseritur [in Latinum reddidit JOANN. ANT. HUGUETAN]; accessit locorum S. SCRIPTURÆ cum Terræ Mobilitate conciliatio [PAULI ANTONII FOSCARINI]; *with front. of Aristotle, Ptolemy, and Copernicus, woodcuts, and diagrams*, 4to. old vellum, with auto. 'Le Clerc de Buffon, 1730' on title, £1. 5s

Lugduni, 1641

The second Latin translation. The above copy is especially interesting as having belonged to Buffon at the age of 23 (according to the above inscription), whose love for the study of natural science it may probably have powerfully quickened. It also has an auto. of Buffon dated 1734, followed by that of his friend GUENEAU DE MONTBEILLARD, pasted in.

- 1442 — **EDITIO NOVA** [cum INDICE, pp. 24]; *with engraved title, and diagrams*, 12mo. (pp. 728), old calf (one joint broken), 12s 6d

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Londini, 1663

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Lugd. Batav., 1699

This edition was unknown to Graesse, and contains the first Latin translation of the important 'Discorsi e dimostrazioni matematiche . . . alla mecanica e ai movimenti locali.'

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See CAPRA, ante, for the work which provoked the above reply.

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Leida, Elsevirii, 1638

FIRST EDITION of one of the author's most important works, which laid the foundation of dynamics, containing the first law of motion, his laws of falling bodies (the result of experiments made between 1602 and 1604), demonstrating the parabolic curves of projectiles (hitherto believed to move in a straight line and suddenly fall vertically to the ground), the laws of cohesion, etc. etc.

- 1446 — **LE OPERAZIONI** del COMPASSO GEOMETRICO, e MILITARE; *with folding plate, woodcuts, and numerous diagrams*, sm. 4to. sewn, 6s

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- 1448 — **SIDEREUS NUNCIUS**, magna longæque admirabilia Spectacula pandens . . . quæ sunt observata in Lunæ Facie, fixis innumeris, Laetæo Circulo, Stellis Nebulosis, imprimè verò in IV PLANETIS CIRCA JOVIS STELLAM disparibus intervallis atque Periodis, celeritate mirabili circumvolutis; quos novissime Auctor deprehendit primus, atque Medicea Sidera nuncupandos decrevit; *with woodcuts and diagrams*, sm. 8vo. sewn, 7s 6d

Londini, J. Flesher, 1653

Containing Galileo's discovery of Jupiter's 4 Satellites.

- 1449 — **TRACTATUS** de PROPORTIONUM INSTRUMENTO, quod merito compendium universæ Geometriæ dixeris; Lingua Latina conversus, adjectis Notis, quibus et artificiosa Instrumenti fabrica, et usus ulterior exponitur [auctore MATTHIA BERNEGERRO], editio II.; *with folding plate, and numerous diagrams*, sm. 4to. boards (a number of ll. badly browned), 8s 6d *Argentorati*, 1635

A Latin translation of No. 1446. The title contains the inscription 'ex Bibliotheca J. B. Cassinii . . . Venetis 1665'.

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This edition contains the author's 'Mercurius in Sole Visus' (an account of his observation of the Transit of Mercury in 1631, including his letter to Prof. Schickhard, of Tübingen, on the subject); 'Proportio Gnomonis ad Solstitialem Umbram'; 'Novem Stellæ circa Jovem visæ, 1642-3'; and 'Parhella, sive Soles IV Spuri'.

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Franckfurt [a. M.], 1720—*Lindau*, 1708

Valuable for its illustrations, giving numerous examples of contemporary dials. The work is unknown to Poggendorf, Brunet, Græse, and other bibliographers.

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The author was professor of mathematics successively at the universities of Bologna, Ferrara, Venice, and Rome, and ultimately Bishop of Civita-Ducale. He combined with his professional duties that of an astrologer, and consulted by the Prince of Bentivoglio predicted that he would be chased from his principality in less than a year. The unlucky prophet received the cruel punishment of 'estrapado,' but had the satisfaction of seeing his prophecy verified shortly afterwards.

- 1487 **GAUSS** (Johann Karl Friedrich) BEITRÄGE zur THEORIE der ALGEBRAISCHEN GLEICHUNGEN; *with plate*, 4to. (pp. 34), *sewn*, 2s *Göttingen*, 1849

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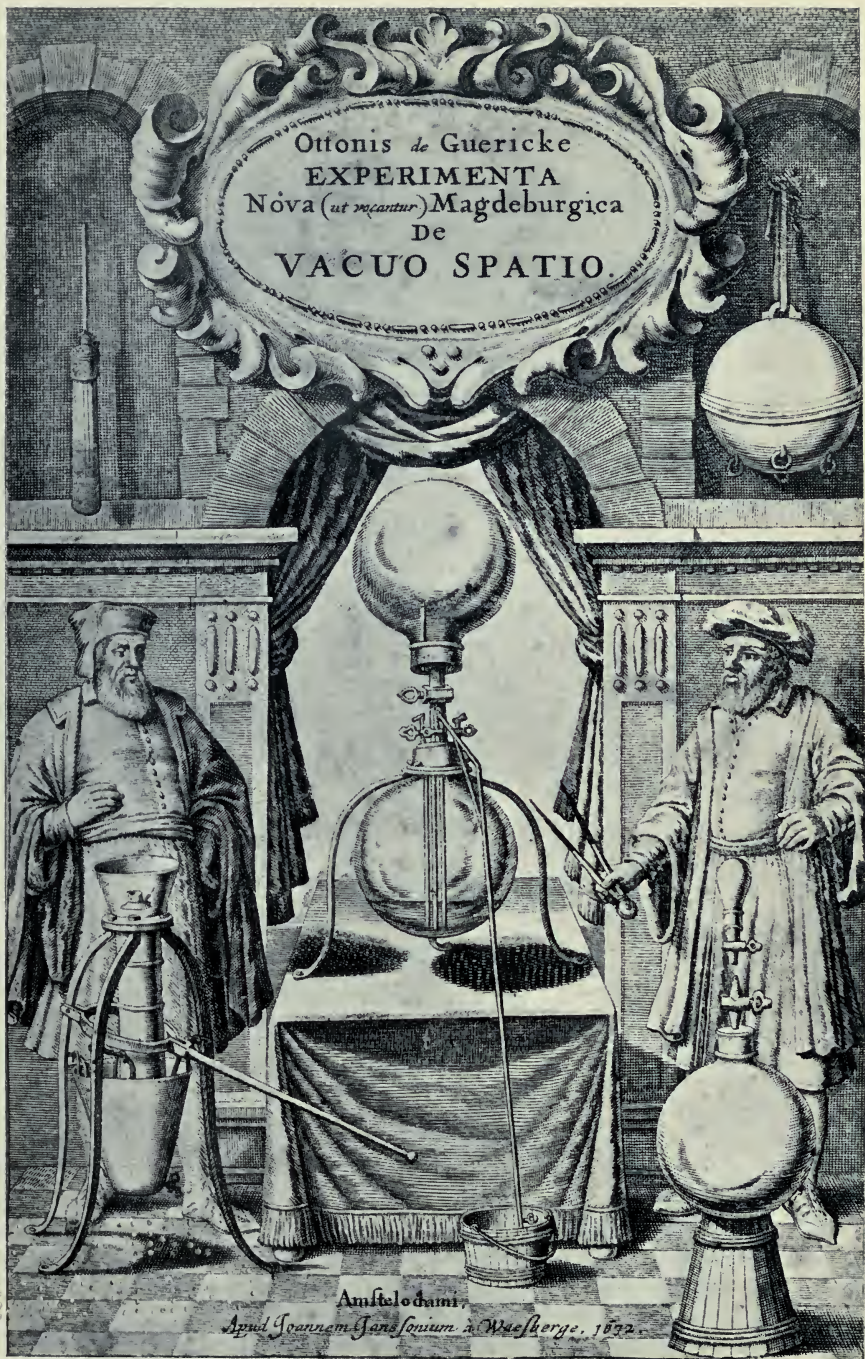
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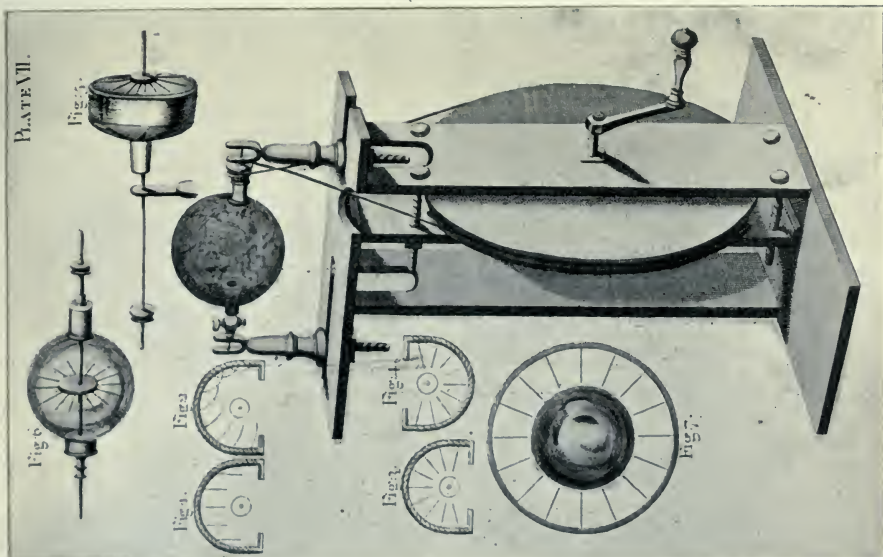
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The only description of the invention of the sextant by Hadley himself was a 10-pp. contribution to the Philosophical Transactions of the Royal Society. The above tracts were written by London opticians, and are now rare.
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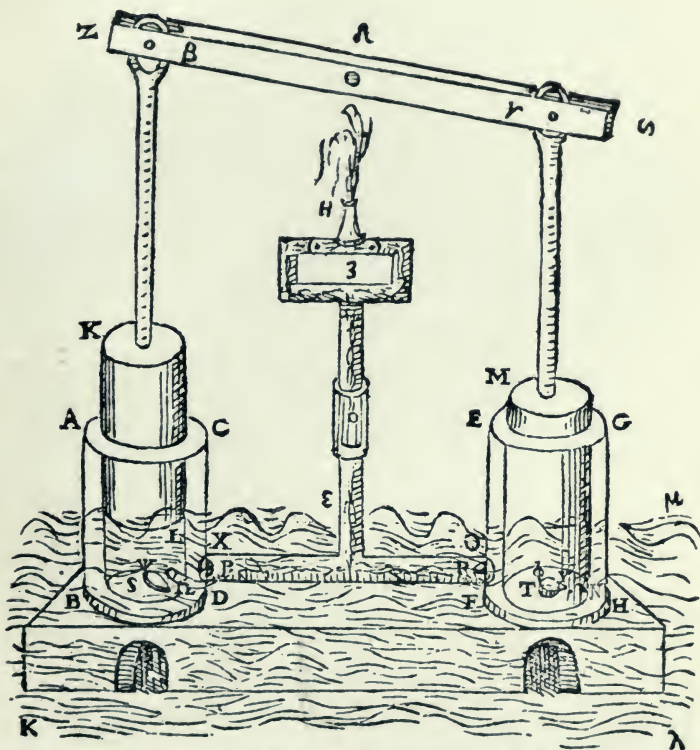
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- 1877 ——— *De gli AUTOMATI, overo MACHINE SE MOVENTI Libri II, tradotti dal Greco da BERNARDINO BALDI, Abbate di Guastalla, nuovamente ristampato et ricoreto; with engraved title, and numerous fine engravings on copper and wood*, sm. 4to. old Italian vellum (*a few ll. slightly water-stained, otherwise a sound and tall copy*); rare, 15s
Veneția, 1601
A translation of the *Αὐτόματα*, different from the first mentioned work, known as *Πνευματικά*, and like it containing descriptions of machines and mechanical contrivances. The above edition is remarkable for the fine engravings it contains.
- , et **HERO** Ctesibius —v. *MATHEMATICI VETERES, post.*
- 1878 ——— : MARTIN (Théodore Henri) *RECHERCHES sur la VIE et les OUVRAGES d'HÉRON d'ALEXANDRIE, et sur tous les Ouvrages Mathématiques Grecs, conservés ou perdus, publiés ou inédits, qui ont été attribués à un Auteur nommé Héron*, 4to. (pp. 488), *sewn, 7s 6d*
Impr. Impériale, 1854
- 1879 **HERSCHEL** (Caroline [Lucretia]), *MEMOIR and CORRESPONDENCE of, by MRS. JOHN HERSCHEL*; 2nd Ed., *with 2 fine steel portraits (Miss Herschel, et. 92, and Sir William Herschel), and plate of the 40-foot Telescope, large post 8vo. cl. (scarce)*, 10s 6d
1879
The only biography of one of the most extraordinary characters in the history of science. Arrived in England to take over the household of her brother, she spent her time between household duties and 'sweeping' the heavens, resulting in her discovery of 8 comets between 1786 and 1797. For her Catalogue of Zones of Sir W. Herschel's Star Clusters and Nebulae she received the Gold Medal of the Astronomical Society.

HERONIS

XXVII.

Siphones autem, quibus vtuntur ad incendia hoc modo construuntur.



Sint duo modioli ærei torno expoliti secundum interiorem eorum superficiem ad embolos, quemadmodū hydrauleorum modioli A B C D E F G H: & emboli ipsi congruentes sint KL MN. simul vero modioli perforentur inter sese per tubum X O D F: & ex partibus exterioribus intra X O D F tubum habeant assaria apposita P R, qualia in superioribus dicta sunt, ita vt in partem

Nos. 1875-6.

The Double Force-Pump invented by Hero of Alexandria.

- 1880 **HERSCHEL** (Sir John Frederick William, F.R.S.) ACCOUNT of a Series of OBSERVATIONS in the Summer of 1825 for DETERMINING the DIFFERENCE of the MERIDIANS of the Royal Observatories of GREENWICH and PARIS, roy. 4to. (pp. 50), *sewn*, 2s 6d 1826
- 1881 — ADDRESS at a SPECIAL MEETING of the ASTRONOMICAL SOCIETY of LONDON, April 11, 1827, on presenting the Honorary Medals to F. Baily, Esq., Lieut. W. S. Stratford, R.N., and Col. Mark Beaufoy, roy. 4to. (pp. 14), *sewn*, 2s [1827]
- 1882 — ON CIRCULATING FUNCTIONS, and on the Integration of a Class of Equations of Finite Differences into which they enter as Coefficients, roy. 4to. (pp. 25), *sewn*, 4s 1815
- 1883 — COLLECTION of EXAMPLES of the APPLICATION of the CALCULUS of FINITE DIFFERENCES, 8vo. *sewn*, 5s Cambridge, 1820
- 1884 — ANOTHER COPY, with EXAMPLES of the SOLUTIONS of FUNCTIONAL EQUATIONS, by CHARLES BABBAGE, F.R.S., *plate*, 2 vols. 8vo. in 1, *boards*, 8s 6d 1820
- Sir John Herschel's first publication in book-form, and 'one of the most charming mathematical works ever written'. — *Prof. Taill.* See PEACOCK, *post*.
- 1885 — ESSAYS from the EDINBURGH and QUARTERLY REVIEWS, with ADDRESSES and other Pieces, thick 8vo. *cl.*, *uncut* (scarce), 10s 6d 1857
- Including reviews of Mary Somerville's 'Mechanism of the Heavens', Bowditch's translation of Laplace's 'Mécanique Céleste', and Dr. Whewell's 'On the Inductive Sciences'. Terrestrial Magnetism, Addresses to the R. Astronomical Soc., Translations from the German of Schiller and Bürger, and original poetry.
- 1886 — ANOTHER COPY, *calf extra, g. e., with auto. inscr.* (see below), 16s
- 'Mrs. Cameron with best wishes from her faithfully attached friend, the Author. J. F. W. HERSCHEL'. — *Inscr. pasted on flyleaf.*
- 1887 — FAMILIAR LECTURES on SCIENTIFIC SUBJECTS, *diagrams*, thick post 8vo. *cl.*, 5s 1866 or '7
- 'A delightful book'. — *Miss Agnes M. Clerke.* It contains lectures on earthquakes and volcanos, the sun, comets, weather and weather prophets, celestial measurings and weighings, and on light.
- 1888 — MANUAL of SCIENTIFIC ENQUIRY for OFFICERS in H. M.'s NAVY and Travellers in General; 3rd Ed. by ROBERT MAIN, pr., P.R.A.S., *woodcuts*, and 2 *maps*, thick post 8vo. *cl.*, or, *calf*, 4s 1859
- Containing contributions by Charles Darwin, Sir G. B. Airy, Dr. Whewell, Gen. Sabine, J. C. Prichard, M.D., Sir Richard Owen, Sir William Hooker, etc.
- 1889 — METEOROLOGY, 2nd Ed., 3 *plates*, and *diagrams*, post 8vo. *cl.*, 3s 6d Edin., 1862
- 'He gave the earliest discussion of the influence on climate of the earth's orbital eccentricity'. — *Miss A. M. Clerke.*
- 1890 — ON A NEW METHOD of COMPUTING OCCULTATIONS of the FIXED STARS, roy. 4to. (pp. 6), *sewn*, 2s 6d 1824
- 1891 — OUTLINES of ASTRONOMY, first edition, with 6 *plates*, and numerous *diagrams*, 8vo. *cl.*, *uncut*, 5s 1849
- 1892 — SECOND EDITION, with 6 *plates*, and *diagrams*, 8vo. *cl.*, 3s 6d 1849
- 1893 — THIRD EDITION, with 6 *plates*, and *diagrams*, 8vo. *hf. calf*, 3s 1850
- 1894 — FOURTH EDITION, with 6 *plates*, and *diagrams*, 8vo. *cl.*, 4s 1851
- The first revised edition, containing an account of 'the remarkable discovery of an additional ring of Saturn, and the curious researches of M. Peters on the proper motions of Sirius, with several minor features.'
- 1895 — SEVENTH EDITION, with 9 *plates*, *woodcuts* and *diagrams*, 8vo. *cl.*, 4s 6d 1864
- 1896 — ANOTHER COPY, *hf. red morocco gilt* (nice copy), 7s
- A reprint of the 5th and wholly rewritten edition.
- 1897 — TENTH EDITION [enlarged and revised], with 9 *plates*, *woodcuts*, and *diagrams*, 8vo. *cl.*, 6s 6d 1869
- The last edition revised by the author.
- 1898 — ELEVENTH EDITION, with 9 *plates*, *woodcuts*, and *diagrams*, sq. 8vo. *cl.*, 6s 1871
- A reprint of the 10th and enlarged edition, and the last published during the author's lifetime.
- 1899 — NEW [FINAL] EDITION, with 9 *plates*, *woodcuts*, and *diagrams*, sq. 8vo. *cl.*, 6s 6d (p. 12s) 1878
- 'Perhaps the most completely satisfactory general exposition of a science ever penned'. — *Miss Agnes M. Clerke.*
- 1900 — PHYSICAL GEOGRAPHY, 3 *folding plates*, thick post 8vo. *cl.*, 3s Edin., 1861 or '7
- 1901 — PRELIMINARY DISCOURSE on the STUDY of NATURAL PHILOSOPHY, with bust-portrait of Bacon by Finden, fcap. 8vo. *cl.*, or, *hf. calf*, 4s 6d 1830 etc.
- 'An admirable comment on the *Novum Organum*'. — *Dr. Whewell.* 'It captivated readers of all classes by the quiet charm of its style, and the justice and breadth of its views'. — *Miss Agnes M. Clerke.*
- 1902 — RESULTS of ASTRONOMICAL OBSERVATIONS during 1834-8 at the CAPE of GOOD HOPE: being the Completion of a Telescopic Survey of the whole Surface of the Visible Heavens, commenced in 1825, with *lithographic front*, of the *Feldhausen Observatory*, and *vignette at end*, and 17 *folding and other plates* (some foxed), roy. 4to. *cl.* (VERY SCARCE), £1. 15s 1847
- The first great star-atlas of the southern hemisphere. 'Besides the catalogues of nebulae and double stars, it included profound discussions of various astronomical topics. He insisted in it on the connexion of sun-spots with the sun's rotation, and started the 'cyclonic theory' of their origin. He investigated graphically the distribution of nebulae, but fluctuated in his views as to their nature . . . Herschel stands almost alone in his attempt to grapple with the dynamical problems presented by star clusters, and his analysis of the Magellanic Clouds was decisive as to the status of nebulae.' — *Eodem.*
- 1903 — TREATISE on ASTRONOMY, new Ed., with *vignette*, 3 *plates* by Adlard, and *diagrams*, 12mo *hf. calf neat*, 3s 1837
- 1904 — and Sir James SOUTH, F.R.S.: OBSERVATIONS of the APPARENT DISTANCES and POSITIONS of 380 DOUBLE and TRIPLE STARS made in 1821-3, and compared with those of other Astronomers, with Account of such Changes as appear to have taken place in them since their Discovery; also Description of a 5-Foot Equatorial Instrument employed in the Observations, with 4 *fine copperplates* by BASIRE of *Astronomical Instruments*, etc., roy. 4to. (pp. 424), *sewn*, *uncut* (scarce), 15s 1825
- This valuable star-catalogue was awarded the Astronomical Society's gold medal, and the Lalande prize for astronomy.

- 1907 **HERSCHEL** (Sir John Frederick William, F.R.S.) *TRAITÉ de la LUMIÈRE*, traduit, avec Notes, par P. H. VERHULST et A. QUETELET; with 15 plates, 2 vols., or, 2 vols. in 1, 8vo. *hf. calf*, 1829-33
 This work, originally published in the *Encyclopædia Metropolitana*, has never been published in English in a separate form. 'This admirable treatise, translated into French by Quetelet, besides including many original discoveries, gave European currency to the undulatory theory of light.'—Miss A. M. Clerke.
 THE MOON-HOAX:
- 1908 ———: SOME ACCOUNT OF THE GREAT ASTRONOMICAL DISCOVERIES lately made by SIR JOHN HERSCHEL, at the Cape of Good Hope, 2nd Ed., 12mo. *hf. roan (nice copy)*; SCARCE, £1. 1s
Effingham Wilson, 1836
 This solemn scientific hoax by an anonymous writer (supposed to have been M. NICOLLET), which was originally broached by the *New York Sun*, relates how Sir John Herschel during his astronomical observations in South Africa made the most startling discoveries on the moon by magnifying the image obtained by the telescope with a powerful microscope [!]. Mountain ranges, buildings, animals in motion, and even flowers (in one instance a red corn poppy) are described to have been observed by the lucky Astronomer Royal, and the statements were taken as genuine astronomical discoveries and swallowed wholesale by the numerous breed of the half-learned.
 ——— v. PEACOCK, post.
- 1909 **HERTGENSTEIN** (Johann Heinrich) *CAHIERS de MATHÉMATIQUE à l'usage de MM. les Officiers de l'Ecole Royale d'Artillerie de Strasbourg*; with numerous folding plates, 2 vols. 4to. *nice copy in old calf gilt, with bookplate of Philip 2nd Earl Stanhope, F.R.S., 7s 6d Strasbourg, 1737*
- 1910 **HERTZ** (Heinrich) *UNTERSUCHUNGEN ueber die AUSBREITUNG der ELEKTRISCHEN KRAFT*; with 40 diagrams, 8vo. *sewn*, 4s (p. M. 6.)
Leipzig, 1892
- 1911 ———: *ELECTRIC WAVES: Researches on the Propagation of Electric Action with Finite Velocity through Space*: authorised English Translation by D. E. JONES, with Preface by LORD KELVIN, 40 illustrations, 8vo. *cl.*, 6s (p. 10s nett)
 1893
 Containing the author's epoch-making investigations on the diffusion of electric force, now known as 'Hertzian waves', which play such an important part in connexion with wireless telegraphy.
- 1912 **HESE** (Ludwig Otto) *VORLESUNGEN ueber ANALYTISCHE GEOMETRIE des RAUMES*, insbesondere ueber Oberflächen zweiter Ordnung, 8vo. *hf. bound*, 3s 6d
Leipzig, 1861
 'By linear substitution, he reduced a form of curves of the third degree in three variables to one of only four terms, and was led to an important determinant involving the second differential coefficient of a form of the third degree called the *Hessian*. . . Many of the most important theorems of curves of the third order are due to Hesse.'—Prof. Cajori.
- 1913 **HEVELIUS** [recte **HEWELCKE**] (Johannes; F.R.S.) *SELENOGRAPHIA: sive LUNÆ DESCRIPTIO*; atque accurata, tam Macularum ejus, quam Motuum Diversorum, aliorumque omnium Viessitudinum, Phasiumque, TELESCOPII Ope Deprehensarum, Delineatio: in qua simul cæterorum omnium Planetarum nativa Facies . . . addita est, Lentæ Expoliendi Nova Ratio, etc. etc.; with engraved title, and very numerous other fine copperplates, folio, old calf gilt (one corner water-stained, and binding slightly damaged, otherwise a sound copy); RARE, £1. 10s
Gedani, 1647
- 1914 ———: ANOTHER COPY, with a beautiful portrait of the author by J. Falek (corner water-stained, but brilliant impression), folio, old stamped vellum (FINE AND LARGE COPY), £2. 5s
 'The earliest great work on the geography of the moon and the aspects of the planets.'—Prof. S. Newcomb.
 It also contains his discovery of the libration of the moon in longitude, and is a work still in great demand.
- 1915 **HEYWOOD** (Thomas; dramatist) *A TRUE DESCRIPTION OF HIS MAJESTIES ROYALL SHIP* ['THE SOVEREIGN OF THE SEAS'] built this Yeare 1637 [by PHINEAS PETT], at WOOL-WITCH in KENT. To the great glory of our English Nation, and not paraleld in the whole Christian World. Published by Authoritie, with engraved front. of the ship, sm. 4to. *hf. morocco, g. c.* (blank margin of dedication and last l. mended, otherwise a LARGE AND SOUND COPY); VERY RARE, £4. 4s
John Okes, for John Aston at his shop in Cat-eaten-streete, 1637
 The 'Sovereign of the Seas' marked an epoch in the history of ship-building, being 'the first three-decker and the largest ship hitherto constructed on modern principles. She was 232 feet in length, of 1637 tons, and carried at first 130 pieces of cannon; being found unwieldy, she was cut down, and proved an excellent ship, but was burned in 1696.'—Capt. Garbett, R.N. A model of the ship, supposed to be contemporary, is still preserved in the Museum of the Royal Naval College at Greenwich.
- 1916 **HIGGINS** (Bryan, M.D.) *EXPERIMENTS and OBSERVATIONS relating to Acetous Acid, Fixable Air, Dense Inflammable Air, Oils, and Fuel; the Matter of Fire and Light, Metallic Reduction, Combustion, Fermentation, Putrefaction, Respiration, and other Subjects of CHEMICAL PHILOSOPHY*, 8vo. boards, *uncut (slightly acid-stained)*; rare, 12s 6d
 1786
 'His best-known work, which appears also to have formed the subject of some of his lectures. He was more successful as a speculator than as an experimentalist, and many of his views are, for their time, remarkable for their acuteness and generalising character'.—D. N. B. All his experiments and views are still based on the phlogiston theory.
- 1917 **HIGGINS** (William, F.R.S.; nephew of the above) *EXPERIMENTS and OBSERVATIONS on the ATOMIC THEORY, and ELECTRICAL PHENOMENA*, 8vo. *cl. (rare)*, 12s 6d
 1814
 'An unworthy attack upon DALTON, in which Higgins set forth his superior claims to be considered the author of the atomic theory'.—D. N. B.
- 1918 **HIGHMORE** (Joseph; painter) *The PRACTICE of PERSPECTIVE on the Principles of DR. BROOK TAYLOR, with 48 folding plates*, 4to. old calf (fine copy), with bookplate of Philip 2nd Earl Stanhope, F.R.S., 10s 6d
 1763
- 1919 **HIGHTON** (Edward, C.E.) *The ELECTRIC TELEGRAPH; its History and Progress, with woodcuts and diagrams*, post 8vo. *cl. (out of print)*, 3s 6d
 1852
 Historically interesting for illustrating various early apparatus and accessories. He incidentally mentions the interesting fact that the semaphore telegraph was still in use between Liverpool and Holyhead.
- 1920 **HILL** (Aaron; dramatist) *ACCOUNT OF THE RISE and PROGRESS OF THE BEECH-OIL INVENTION, and all the Steps which have been taken in that Affair, from the First Discovery, to the present Time, as also what is FURTHER DESIGN'D in That Undertaking*, post 8vo. (pp. 112), *sewn (title soiled)*; VERY RARE, £1. 1s
 1715
 A flaming prospectus of the author's scheme for extracting the oil from beechmast. A patent was granted for the process, and a company formed to work it with a capital of £25,000, while 45 per cent. was promised after 2 years, 'besides making the whole nation happy.' The venture collapsed in 1716, and Hill lost a considerable sum by it.
 The above work was apparently unknown to the author's biographer in D. N. B.

- 1921 **HILL (John, Gent.)** ARITHMETICK both in THEORY and PRACTICE, made Plain and Easie, with Interest and Annuities, Extraction of the Square and Cube Roots, the Tables and Construction of Logarithms, Arithmetical and Geometrical Progression, etc. etc., third Ed., with several Algebraical Questions, and Preface by MR. HUMPHREY DITTON, sm. 8vo. *old calf (some ll. stained); rare*, 15s 1721

'A work of much celebrity. It seems to have owed its fame partly to a recommendation of Humphrey Ditton, praising it in the strongest terms. Perhaps at this time the only things which would catch the eye are the table of logarithms, and the powers of 2 up to the 144th, very useful for laying up grains of corn on the squares of a chess-board, ruining people by horseshoe bargains, and other approved problems.—*Prof. de Morgan*, who possessed, however, only the 7th edition of 1745.

- 1922 **HILL (John, M.D.; self-styled 'Sir John')** NEW ASTRONOMICAL DICTIONARY, or a Compleat View of the Heavens; containing the Antient and Modern Astronomy, with Explanations of all the Terms used in that Science, 12 *folding plates*, 4to. *old calf (title mounted and last plate damaged)*, 4s 6d 1768

'For physic and farces, his equal there scarce is,

His farces are physic, his physic a farce is.—*David Garrick*.

'He was very able and very eccentric'.—*Prof. de Morgan*, and he successfully hoaxed the Royal Society.

- 1923 **HIND (John, pr.; Sidney Sussex Coll., F.R.A.S.)** DIGESTED SERIES of EXAMPLES in the APPLICATION of the PRINCIPLES of the DIFFERENTIAL CALCULUS, 8vo. *boards*, or, *hf. bound*, 3s Cambridge, 1832

- 1924 ——— ELEMENTS of ALGEBRA, 4th Ed., 8vo. *hf. brown calf gilt*, 4s *ib.*, 1839

- 1925 ——— FIFTH EDITION [slightly enlarged], 8vo. *boards*, 4s *ib.*, 1841

- 1926 ——— ELEMENTS of PLANE and SPHERICAL TRIGONOMETRY, 2nd Ed., 8vo. *cl.*, 2s 6d *ib.*, 1828

- 1927 ——— PRINCIPLES of the DIFFERENTIAL CALCULUS; with its Application to Curves and Curve Surfaces, 2nd [last] Ed., 8vo. *boards*, 5s *ib.*, 1831

- 1928 ——— PRINCIPLES and PRACTICE of ARITHMETIC, comprising Logarithms and the Computations of Artificers, Surveyors, etc., 5th Ed., *fcap. 8vo. hf. bound*, 2s 6d *ib.*, 1845

Highly recommended by Dr. Whewell in his *Cambridge Studies*.

- 1929 ——— SOLUTIONS of the more difficult QUESTIONS in the PRINCIPLES of ARITHMETIC; with Examination Questions, 8vo. *boards*, 2s 6d *ib.*, 1842

- HIND (John Russell, F.R.S., discoverer of 'Iris' and 'Flora')** ASTRONOMICAL OBSERVATIONS —v. BISHOP (George), *ante*.

- 1930 ——— The COMET of 1556: Replies referring to its anticipated Re-appearance, and to the Apprehension of DANGER from COMETS, post 8vo. *cl.*, 2s 6d 1857

A forecast of the re-appearance of the comet of Charles V. in 1858, which, however, did not come true.

- 1931 ——— The COMETS: a Descriptive Treatise, with the numerous Modern Discoveries, and Table of all the Calculated Comets, from the Earliest Ages, post 8vo. *cl.*, 4s 1852

A valuable work, in which the author traced, *inter alia*, Halley's Comet back to 11 B.C. It was translated into German.

- 1932 ——— The ILLUSTRATED LONDON ASTRONOMY, with 74 *illustrations*, large post 8vo. *cl.*, 2s 6d 1853

- 1933 **HINRICHS (Gustavus Detlef, M.D.)** The ABSOLUTE ATOMIC WEIGHTS of the CHEMICAL ELEMENTS, established on the Analyses of the Chemists of the XIX. Century, and DEMONSTRATING the UNITY of MATTER, with *portrait of Berzelius* and 3 *plates*, roy. 8vo. *sewn, with inscr. to Prof. W. H. Perkin*, 4s 6d St. Louis, 1901

A vigorous attack on what the author calls the *Morbus Stasii*, Prof. Frank Wigglesworth Clarke, and the Smithsonian Institution.

- 1934 **HIORNS (Arthur H., Birmingham and Midland Inst.)** MIXED METALS, or METALLIC ALLOYS, *woodcuts*, cr. 8vo. *cl.*, 3s (p. 6s) 1890

- 1935 **HIPKINS (W. E.)** THE WIRE ROPE and its APPLICATIONS, with 48 *plates* (40 coloured) and *woodcuts*, cr. 4to. *cl.*, 3s 6d Birmingham, 1896

The author's firm were the makers of the first successful Atlantic cable.

- 1936 **HIRN (Gustave Adolphe, Colmar)** CONSTITUTION de l'ESPACE CÉLESTE; with *folding plate*, 4to. *hf. morocco gilt*, 12s 6d (p. F. 20. unbound) 1889

A valuable work, especially in connexion with cometary astronomy. It is dedicated to the late Emperor of Brazil.

- 1937 ——— EXPOSITION ANALYTIQUE et EXPERIMENTALE de la THÉORIE MÉCANIQUE de la CHALEUR, contenant la Traduction du Livre de G. ZEUNER: Grundzüge der mechanischen Wärmetheorie; with *plates* and *woodcuts*, 2 vols. roy. 8vo. *sewn*, 9s 1862-76

Vol II is of the third and last edition. The author discovered superheated steam, and laid the foundation of the theory of the mechanical equivalent of heat.

- 1938 **HIRSCH (A.), et Theodor v. OPPOLZER**: UNIFICATION des LONGITUDES par l'Adoption d'un MÉRIDIEN INITIAL UNIQUE, et INTRODUCTION d'une HEURE UNIVERSELLE: Extrait des C. R. de la 7^e Conférence Générale de l'Association Géodésique Internationale, 4to. (pp. 48), *cl.*, 3s [Berlin, 1883]

The Conference adopted Greenwich. This must have additionally tickled the London County Council when they decided to ruin Greenwich Observatory by making it dance with a rate-eating municipal powerhouse.

- 1939 **HIRSCH (Meier)** COLLECTION of EXAMPLES, FORMULE, and CALCULATIONS, on the LITERAL CALCULUS and ALGEBRA, trans. by J. A. ROSS, pr., 3 *tables*, 8vo. *boards*, 3s 1827

- 1940 ——— GEOMETRY, trans. by J. A. ROSS, pr., and ed. by J. M. F. WRIGHT, *diagrams*, 8vo. *boards*, 2s 6d 1827

- 1941 ——— INTEGRALTAFELN, oder sammlung von Integralformeln, roy. 8vo. *hf. calf*, or, *old calf*, 2s 6d Berlin, 1810

- 1942 ——— INTEGRAL TABLES, or Collection of Integral Formulæ, trans. [by J. A. ROSS, pr.], 8vo. *boards*, or, *hf. calf*, 3s 1823

- 1943 ——— A LARGE PAPER COPY, roy. 8vo. *hf. calf gilt*, 5s

- 1944 **HOARE** (Charles, C.E.) *The SLIDE-RULE, and how to use it, with slide-rule in pocket*, post 8vo. cl., 2s 1875
- 1945 **HOBBS** (Thomas, of Malmesbury) *OPERA PHILOSOPHICA*, quæ Latinè scripsit, OMNIA, antè quidem per partes, nunc autem, post cognitâ omnium Objectiones, conjunctim et accuratius edita; *with numerous folding plates and smaller engravings on copper*, sm. 4to. *old hf. calf (title and first l. slightly mended, and some ll. wormed), with auto.* J[AMES] STIRLING [F.R.S., author of 'Methodus Differentialis']; rare, 10s 6d *Anst., Joa. Blaeu [à la sphère]*, 1668
- Vol. I of the FIRST COMPLETE EDITION, which had to be printed abroad, Hobbes having been forbidden to publish it at home. It contains *Problemata Physica*; *Dialogi VI de emendatione Geometrie hodiernæ contra Wallisium de Corpore*; *de Homine*.
- 1946 ——— **ELEMENTS of PHILOSOPHY, the First Section, concerning BODY, with SIX LESSONS to the PROFESSORS of MATHEMATICKS of the Institution of St Henry Savile, in the University of Oxford, with numerous folding plates**, '56: ΣΤΙΓΜΑΙ, or MARKES of the ABSURD GEOMETRY, RURAL LANGUAGE, SCOTTISH CHURCH-POLITICKS, and BARBARISMES of JOHN WALLIS, Professor of Geometry and Doctor of Divinity, '57: [Stubbe (William)] CLAMOR, RIXA, JOCI, MENDACIA, FURTA, CACHINI, or a SEVERE ENQUIRY into the late ONEIROCRITICA: or an Exact Account of the Grammatical Part of the Controversy betwixt Mr. Hobbes and J. Wallis, D.D. (containing both titles), no printer, '57—3 vols. 4to. in 1, VERY TALL and CLEAN COPY in *old calf (joints cracked)*; a very rare collection, £5. 5s *R. and W. Leybourn*, 1656—A. Crooke, 1657
- The Tract of HENRY STUBBE, which follows Hobbes's *Stigmata* in this volume, is one of the rarest Tracts in the English Language. It is also exceedingly interesting from the Learning and Causticity which it displays. The only other Copies I ever saw, having sought & advertised for it for years, are those in the British Museum & Bodleian Library & another which I obtained from Henry Bohn, all of which however are imperfect, wanting the postscript from p. 17 to 85 so that this is in fact the only perfect copy known. I advised SIR WILLIAM MOLESWORTH to reprint it in his Edition of Hobbes's Works. He has not done so, but the reprint of the *Stigmata* in his Edition was from the Copy in this Volume, — JAS CROSSLEY [Founder and President of the Chetham Society]. 3rd Apr! 1849. — Inscr. on flyleaf.
- 1947 ——— **LUX MATHEMATICA: excussa Collisionibus JOH. WALLISII, D.D. et Thomæ Hobbesii, multis et fulgentissimis aucta radiis Authore R. R.; adjuncta est Censura Doctrinæ Wallisianæ de Libra, cum ROSETO HOBBSII, editio princeps; with plate and numerous diagrams on copper**, sm. 4to. *hf. brown calf gilt (nice large copy)*, 7s 6d *Londini*, 1672
- Written at the age of eighty-four.
- 1948 ——— **De PRINCIPIIS et RATIOCINATIONE GEOMETRARUM, ubi ostenditur incertitudinem falsitatemque; non minorem inesse scriptis eorum, quam scriptis Physicorum et Ethicorum. Contra fastum Professorum Geometrie, editio princeps; with plates and diagrams on copper**, sm. 4to. *old sheep (margins of some ll. wormed, but a tall and sound copy)*, with bookplate of Philip 2nd Earl Stanhope, F.R.S., 12s 6d *ibidem*, 1666
- 1949 ——— **QUADRATURA CIRCULI, CUBATIO SPHÆRÆ, DUPLICATIO CUBI, breviter DEMONSTRATA, editio princeps**, 4to. (pp. 20), *hf. brown calf extra (nice large copy)*, 10s 6d *ib.*, 1669
- This pamphlet, containing the philosopher's singular notions on the quadrature of the circle, and other geometrical fallacies, was answered by JOHN WALLIS in his 'Thomæ Hobbes Quadratura Circuli, etc. confutata' (q. v. post).
- 1950 ——— **ROSETUM GEOMETRICUM, sive Propositiones aliquot frustra antehac tentatæ, cum (CENSURA brevi DOCTRINÆ WALLISIANÆ de Motu, editio princeps; with numerous diagrams on copper**, 4to. (pp. 68), *hf. brown calf extra (nice large copy)*, 8s 6d *ib.*, 1671
- 1951 ——— **THREE PAPERS presented to the ROYAL SOCIETY AGAINST DR. WALLIS, with Considerations on his Answer to them, first edition, with diagrams**, 4to. *hf. brown calf extra (nice large copy)*, 15s *Printed for the Author*, 1671
- Added is a broadsheet, dated April 20, 1674: 'Epistola Thomæ Hobbes ad Dom. Antonium à Wood,' also two broadsheets 'To the Learned Members of the Royal Society.'
- Hobbes was very wrong in his quadrature; but, though not a Gregory St. Vincent, he was not the ignoramus in geometry that he is sometimes supposed. His writings, erroneous as they are in many things, contain acute remarks on points of principle. — Prof. de Morgan.
- 1952 **HOBBS (William) A NEW DISCOVERY for FINDING the LONGITUDE, with 2 plates of the spring-movement**, sm. 4to. (pp. 7), *scun (rare)*, 7s 6d 1714
- The method advocated was by means of a curious watch (worked in conjunction with a chronometer) which is divided into 100 parts, and of which one hand moves to one part, while the other moves over the whole hundred. The illustration gives particulars as to its construction.
- 1953 **HOBLYN (Richard Dennis; pr., Balliol Coll.) DICTIONARY of SCIENTIFIC TERMS**, post 8vo. cl., 3s 1849
- 1954 **HODGE (Paul R., C.E.) ANALYTICAL PRINCIPLES and PRACTICAL APPLICATION of the EXPANSIVE STEAM ENGINE, as employed in Pumping, Manufacturing, NAVIGATION, RAILWAY LOCOMOTION, etc., with 8 folding plates, and diagrams**, 4to. *hf. roan*, 4s 6d (p. £3.) 1849
- An early treatise on the advantage of using steam expansively, so greatly developed since in the compound engine.
- 1955 **HODGES (John A.) PICTORIAL LANDSCAPE PHOTOGRAPHY, front. and 36 other illustrations**, 8vo. *buckram*, 2s 6d (p. 5s) *Chicago*, 1901
- 1956 **HODGSON (James, F.R.S.) THE THEORY of NAVIGATION DEMONSTRATED: and its Rudiments Clearly and Plainly Proved, from the First and most Simple Principles of the Mathematicks, with Rules and Tables, Catalogue of the Right Ascensions, etc. of some Eminent Fixed Stars, and the Latitudes of several Ports and Cities, with their Longitudes [also a TRIANGULAR CANON LOGARITHMICAL]; plates and numerous diagrams (some with MOVEABLE SLIPS)**, thick sm. 4to. *old sheep (joints cracked)*, 12s 6d 1706
- The author was Master of the Mathematical School at Christ's Hospital, and a friend of Flamsteed, whose niece he married.
- 1957 **HOFF (Jacobus Hendrik van 't) LECTURES on THEORETICAL and PHYSICAL CHEMISTRY, trans. by R. A. LEHFELDT, Part II: CHEMICAL STATICS, diagrams**, 8vo. cl., 6s (p. 8s 6d nett) [1899]
- 1958 ——— **PHYSICAL CHEMISTRY in the SERVICE of the SCIENCES; trans. by ALEXANDER SMITH, with portrait, and plate illustrating 'tin disease'**, 8vo. cl., 5s 6d (p. 7s 6d nett) *Univ. Press, Chicago*, 1903

UNIV. OF
CALIFORNIA

FIG. I.

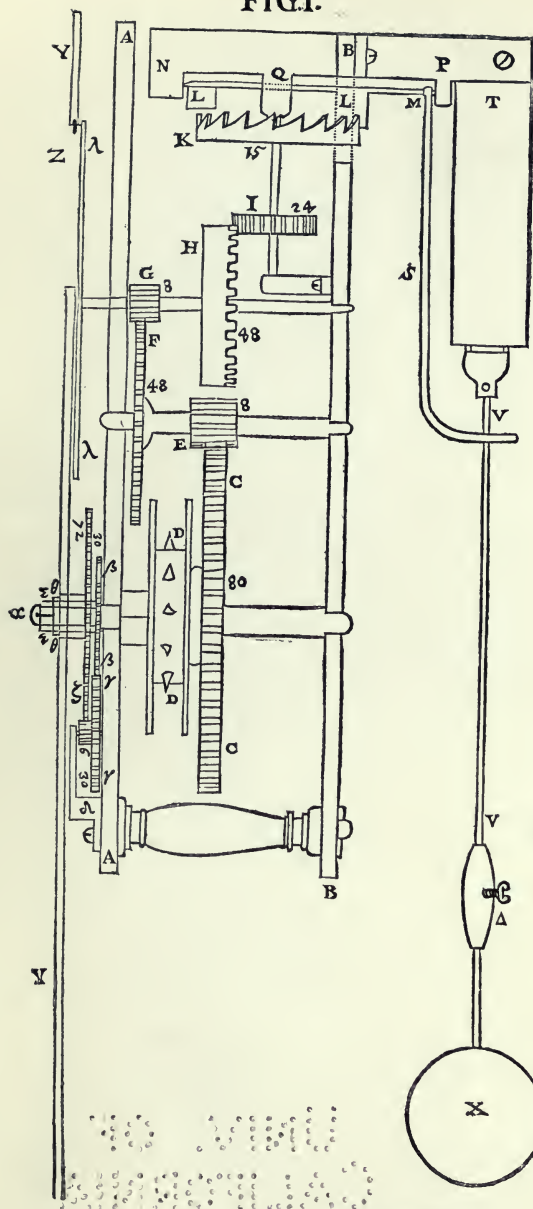


FIG. II.



FIG. IV.

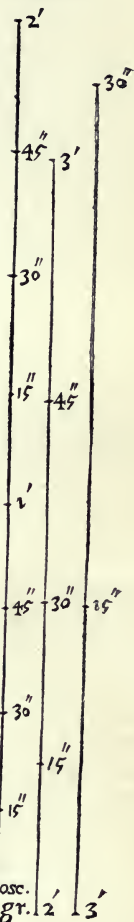
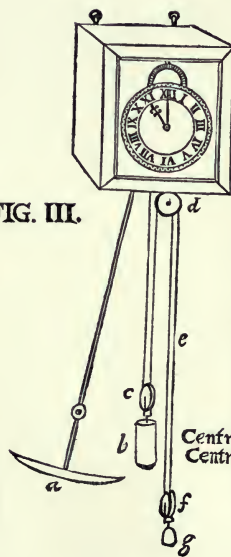


FIG. III.



No. 2064 (*page 99*).

The Pendulum Clock invented by Huygens.

- 1959 **HOFF** (Jacobus Hendrik van 't) STEREOCHEMIE, nach 'Dix Années dans l'Histoire d'une Théorie,' unter Mitwirkung des Verfassers neu bearbeitet von W. MEYERHOFFER; *with diagrams*, 8vo. *cl.*, 3s (p. M. 5.) *Wien*, 1892
- 1960 ——— STUDIES in CHEMICAL DYNAMICS, revised and enlarged by ERNEST COHEN, trans. by THOMAS EWAN, with Preface by the Author; 49 *illustrations*, roy. 8vo., *cl.*, 5s (p. 10s 6d) *Amsterdam*, 1896
- 1931 **HOFFMANN** (Friedrich) OBSERVATIONUM PHYSICO-CHEMICARUM selectiorum LIBRI III, in quibus multa curiosa EXPERIMENTA et lectissima Virtutis MEDICAMENTA exhibentur, 4to. *old calf*, 14s *Hale*, 1722
- The author made many important investigations and discoveries in pharmaceutical and analytical chemistry, including an analysis of mineral waters, and did good work in combating the iatro-chemical doctrines of Sylvius and Tachenius, but is perhaps best known by his invention of 'Hoffmann's Anodyne', which is still in use as *spiritus ætheris compositus* of the British Pharmacopœia.
- 1952 **HOFFMANN** (Johann Josef Ignaz v.) ABHANDLUNGEN aus der MATHEMATIK und PHYSIK, nebst mathematischen und physischen Belustigungen; *with 15 folding plates*, 8vo. *sewn*, *uncut*, 5s *Mainz*, 1838
- 1963 **HOFMANN** (August Wilhelm v.; F.R.S.) ZUR ERINNERUNG AN VORANGEGANGENE FREUNDE: GESAMMELTE GEDACHTNISSREIEN; *with portraits and fss.*, 3 vols. 8vo. *cl.*, 15s (p. M. 23.) *Braunschweig*, 1888
- 'George F. Wilson Esq. with the Author's affectionate regards. April 8, '89.'—*Inscr. on flyleaf*. See also LIEBIG, post.
- 1964 **HOLDEN** (Edward Singleton, Director Lick Observatory) MOUNTAIN OBSERVATORIES in AMERICA and EUROPE, *with numerous plates*, 8vo. *sewn*, 3s *Washington*, 1896
- 1965 **HOLDER** (William, F.R.S., Canon of St. Paul's) DISCOURSE concerning TIME, with Application of the Natural Day, the Lunar Month, and Solar Year, as Natural; and of such as are derived from them, as Artificial Parts of Times, for Measures in Civil and Common Use: for the better UNDERSTANDING of the JULIAN Year and CALENDAR, etc., etc., *first edition*, large 12mo. *original sheep*, 10s 6d 1694
- The author's last work. He was an accomplished musician, and also did much in teaching the deaf and dumb, one of whom, an Alexander Poplin, he taught to speak, though he afterwards temporarily relapsed. He married an elder sister of Sir Christopher Wren, and had much to do with the latter's education.
- 1966 **HOLLAND** (Sir Henry, M.D., F.R.S.) ESSAYS on SCIENTIFIC and other SUBJECTS, 8vo. *cl.*, 5s 1862
- 1967 ——— ANOTHER COPY, *hf. green Levant morocco gilt*, *uncut*, t. e. g. (*fine copy*), 8s
- 1968 ——— SECOND EDITION [revised and enlarged], 8vo. *cl.*, 6s 1862
- Containing essays on astronomical, physical, and chemical subjects.
- 1969 ——— FRAGMENTARY PAPERS on SCIENCE and other Subjects, edited by his Son, FRANCIS JAMES HOLLAND, Canon of Canterbury, 8vo. *cl.*, 5s 1875
- 1970 [**HOLLAND** (John)] TREATISE on the PROGRESSIVE IMPROVEMENT and PRESENT STATE of the MANUFACTURES in METAL, *vignettes by Finden*, and 300 *woodcuts*, 3 vols. *feap*. 8vo. *hf. calf* (*nice copy*), 5s 1831-4
- 1971 **HOLLEMAN** (A. F., Univ. Amsterdam) TEXT-BOOK of ORGANIC CHEMISTRY, trans. from the 2nd Dutch Edition by A. JAMIESON WALKER and OWEN E. MOTT, *illustrated*, 2 vols. 8vo. *cl.*, 7s (p. 10s 6d nett) *New York*, 1903
- One of the best text-books on the subject.
- 1972 **HOLMES** (J. H. H., F.S.A.) TREATISE on the COAL MINES of DURHAM and NORTHUMBERLAND; with the Stratifications of the two Counties, and Accounts of EXPLOSIONS from FIRE-DAMP for the last 20 Years, with Means proposed for their Remedy, and for the General Improvement of the Mining System, by NEW METHODS of VENTILATION, 6 *plates*, and *map*, 8vo. *boards* (*rare*), 12s 6d 1816
- Plate 6 illustrates Clanny's, Brandling's, and Murray's Safety Lamps.
- 1973 **HOLTZAPFFEL** (Charles) NEW SYSTEM of SCALES of EQUAL PARTS, applicable to various purposes of ENGINEERING, etc., *with folding plate of the Scales*, 8vo. *cl.*, 4s 1833
- The author's first work.
- 1974 ——— TURNING and MECHANICAL MANIPULATION: a Work of General Reference and Practical Instruction on the Lathe, and the various Mechanical Pursuits followed by Amateurs: Vols. I, II, IV, and V, *with very numerous plates and woodcuts*, 4 vols. 8vo. *cl.*, £2. 12s 6d 1846-84
- CONTENTS:—I. Materials, their Preparation and Figuration, '40: II. Construction, Action, and Application of Cutting Tools, '79: IV. The Practice of Hand or Simple Turning, '79: V. The Practice of Ornamental and Complex Turning, '84.
- 1975 **HOLWELL** (John, Philomath) A SURE GUIDE to the PRACTICAL SURVEYOR, also how to convey WATER from any Spring-Head, to any appointed place; THE LIKE NEVER BEFORE EXTANT [including a TABLE for FINDING the LONGITUDE and LATITUDE], *with plates and diagrams*, sm. 8vo. *contemporary calf* (*rare*), 15s 1673
- The author's first published work.
- 1976 ——— TRIGONOMETRY made EASY; fitted to the meanest Capacity, 2 *plates*, 16mo. *nice copy in contemporary sheep*, *with bookplate of Philip 2nd Earl Stanhope, F.R.S.*, 6s 1635
- The author combined astrology, mathematics, and an extensive practice as a surveyor, and was grandfather of JOHN ZEPHANIAN HOLWELL, Governor of Bengal, and a survivor of the Black Hole of Calcutta. He was sent in 1685 on a Government mission to New York, and died there, it is said of poison, as it was not wished to have him back again.
- 1977 **HOOD** (Charles, F.R.S.) PRACTICAL TREATISE on WARMING BUILDINGS, on VENTILATION, and on the Laws of Radiant and Conducted Heat, the Chemical Constitution of Coal, and the Combustion of Smoke; 5th Ed., greatly enlarged, *woodcuts*, 8vo. *cl.*, 3s 6d (p. 10s 6d) 1879
- 1978 **HOOPER** (William, M.D.) RATIONAL RECREATIONS, in which the PRINCIPLES of NUMBERS and NATURAL PHILOSOPHY are clearly and copiously elucidated, by a Series of Easy, Entertaining, Interesting EXPERIMENTS, including those commonly performed with the CARDS, *with 65 folding plates on copper*, 4 vols. 8vo. *contemporary calf extra* (*fine copy*), 15s 1774
- 1979 ——— THIRD EDITION, corrected, *with 65 fine folding plates on copper* (ALL HANDCOLOURED), 4 vols. 8vo. *contemporary tree-calf gilt* (*nice copy*), £1. 1s 1787

- 1705
1980 **HOOKE** (Robert, F.R.S., *Gresham Prof. Astronomy*) POSTHUMOUS WORKS, containing his CUTLERIAN LECTURES, and other Discourses, with LIFE, published by RICHARD WALLER, F.R.S., with 13 copperplates, folio, *old calf (sound copy)*; RARE, £1. 15s
- The Cutlerian Lectures contain: An Attempt to prove the Motion of the Earth, 1674; Animadversions on the first part of the Machina Coelestis of J. Hevelius, '74; Description of Helioscopes, etc., '76; Lampas: or Description of some Mechanical Improvements of Lamps and Waterpoises, '77; Cometa and Microscopium, '78; and Appendix: Potentia Restitutiva; and Dr. Papin's Letter; while the Discourses comprise: The present Deficiency of Natural Philosophy: The Nature, Motion, and Effects of Light: An Hypothetical Explanation of Memory: The Cause of Gravitation, Magnetism, etc.: Discourses on Earthquakes: Lectures for improving Navigation and Astronomy.
- 1745
1981 —: MICROGRAPHIA RESTAURATA: or the COPPER-PLATES of DR. HOOKE'S WONDERFUL DISCOVERIES by the MICROSCOPE, Reprinted and fully Explained: Whereby the most Valuable Particulars in that Celebrated Author's Micrographia are brought together in a narrow Compass; and intermixed, occasionally, with many Entertaining and Instructive Discoveries and Observations in Natural History [by HENRY BAKER, F.R.S.], with 33 large and fine copperplates (*some folding*), folio, *old calf gilt*, 15s
- Comprising the complete set of the beautiful original plates, with the text shortened and rewritten by HENRY BAKER, F.R.S.
- 1726
1982 —: PHILOSOPHICAL EXPERIMENTS and OBSERVATIONS of R. H., and other Eminent Virtuoso's in his Time, publish'd by W. DERHAM, F.R.S., with plates and woodcuts, 8vo. *nice copy in old calf, newly rebaked* (RARE), £1. 1s
- 'Waller died before a projected second volume appeared, and some of the remaining MSS. furnished Derham's 'Philosophical Experiments'.—D. N. B.
- 'Hooke was a man of extraordinary inventive genius, and has justly been considered as the greatest of philosophical mechanicks. There was no important invention by any philosopher of that time which was not in part anticipated by Hooke. His theory of gravitation subsequently formed part of Newton's; he anticipated the invention of the steam engine, and the discovery of the laws of the constrained motions of planets. Among his own completed discoveries are the law of the extension and compression of elastic bodies, the balance spring of watches and the anchor-escapement clocks, and the permanency of the temperature of boiling water. The quadrant, telescope, and microscope are also materially indebted to him.' The above three works comprise all ever printed of his writings.
- v. BOYLE (R.) NEW EXPERIMENTS, and NOVA EXPERIMENTA, ante.
- 1822
1983 **HOOPER** (Egbert G.) THE MANUAL OF BREWING: Scientific and Technical, 2nd Ed., woodcuts, post 8vo. *cl. (slightly soiled)*, 2s 6d
- 1903
1984 **HOOPER** (William George, F.R.S.) AETHER and GRAVITATION, 8vo. *cl.*, 4s (p. 12s 6d nett)
- A fresh attempt to solve this hopeless problem.
- 1851
1985 **HOPKINS** (Evan, C.E.) ON THE CONNEXION of GEOLOGY with TERRESTRIAL MAGNETISM, 2nd Ed., enlarged, with 30 plates, and numerous woodcuts, 8vo. *cl.*, with author's inser., 5s
- 1890
1986 **HOPKINS** (George M.) EXPERIMENTAL SCIENCE: Elementary, Practical, and Experimental Physics, with front, and 672 woodcuts, thick large 8vo. *cl.*, 6s (p. 17s nett) New York,
- 1905
1987 **HOPKINS** (Nevil Munroe, George Washington Univ.) EXPERIMENTAL ELECTROCHEMISTRY, with 130 illustrations, roy. 8vo. *cl.*, 8s 6d (p. 12s nett)
- 1854
1988 **HOPKINS** (Thomas) ON the ATMOSPHERIC CHANGES which produce RAIN and WIND, and the Fluctuations of the BAROMETER, 2nd Ed., with additional Essays and Diagrams, charts, 8vo. *cl.*, 6s
- n.d.
1989 — ON the INFLUENCE of the EARTH'S ROTATION on WINDS, 8vo. (pp. 11), *sewn*, 1s
- 1854
1990 — ON the INFLUENCE of SUN-HEATED LAND in PRODUCING ASCENDING ATMOSPHERIC CURRENTS, 8vo. (pp. 16), *sewn*, 1s 6d Manchester,
- 1854
1991 — ON the SEPARATE PRESSURES of the AQUEOUS and the GASEOUS PORTIONS of the ATMOSPHERE, 8vo. (pp. 25), *sewn*, 1s 6d ib.,
- 1852
1992 — OUTLINES of an HYPOTHESIS to account for the PRODUCTION of RAIN and WIND, 8vo. (pp. 8), *sewn*, 1s ib.,
- 1833
1993 **HOPKINS** (William) ELEMENTS of TRIGONOMETRY, woodcuts; also, ELEMENTARY ILLUSTRATIONS of the DIFFERENTIAL and INTEGRAL CALCULUS, and a few other Tracts—in one vol. 8vo. *hf. bound*, 4s
- 'Containing a good historical sketch'.—D. N. B. See also MORGAN (A. de) and SNOWBALL, post.
- The author was known as the Senior Wrangler Maker, and had as his pupils Sir G. G. Stokes, Lord Kelvin, P. G. Tait, Henry Fawcett, James Clerk Maxwell, and Isaac Todhunter.
- 1884
1994 **HOPPE** (Edmund) GESCHICHTE der ELEKTRIZITÄT; illustrated, 8vo. *hf. calf gilt*, 7s 6d Leipzig,
- 1900
1995 **HOROLOGICAL JOURNAL** (The): the Special Organ of the BRITISH HOROLOGICAL INSTITUTE, COMPLETE from the beginning in 1858 to 1900, with numerous illustrations, 42 vols. large 8vo. and roy. 8vo. in 10, *hf. morocco gilt* (v. 1 wanting title and index, otherwise a SOUND AND CLEAN SET), £5. 10s 1858-1900
- 1740-1
1996 **HORREBOW** (Petrus) OPERA MATHEMATIO-PHYSICA; with copperplates and diagrams, 3 vols. cr. 4to. *old calf gilt*, or, *old vellum (fine copies)*, 12s 6d Havnæ,
- 'Il inventa une méthode que Bernoulli regardait comme admirable, savoir de trouver la hauteur du pôle par le moyen de deux étoiles qui soient situées l'une au nord et l'autre au sud et qui aient à peu près la même déclinaison'.—*Diogr. Gén.*
- Of special interest is his 'Basis Astronomiæ,' in which he describes the astronomical instruments and methods of observation of OLOF ROEMER.
- 1773
1997 **HORSLEY** (Samuel; Bp. of St. Asaph, F.R.S.) ΚΟΣΚΙΝΟΝ ἘΠΑΘΟΣΘΕΝΟΥΣ, or the SIEVE of ERATOSTHENES: an Account of his METHOD of finding all the PRIME NUMBERS, 4to. (pp. 23), *sewn*, 4s
- Collated with a MS. of Abp. Laud's. This tract is not mentioned in a professedly complete list of the author's works in D.N.B.
- 1774
1998 — REMARKS on the Observations made in the late VOYAGE towards the NORTH POLE, for determining the ACCELERATION of the PENDULUM, in Lat. 79° 50', 4to. (pp. 15), *sewn*, 2s 6d
- v. APOLLONIUS PERGÆUS, ante, and NEWTON, post.

- 1999 **HORROCKS** (Jeremiah; *Curate of Hoole, Lancs.*; *first observer of the Transit of Venus*): JEREMIAE HORROCCII, Liverpoliensis Angli, OPERA POSTHUMA; accedunt GUIL. CRABTRÆI, Mancestriensis, Observationes Cœlestes; JOH. FLAMSTEDII de Temporis Equatione Diatriba; Numeri ad Lunæ Theoriam Horroccianam; JOH. WALLISII de Cometaryum Distantiis; de Rationum et Fractionum Reductione; de Periodo Juliana; *with diagrams*, thick cr. 4to. *old calf* (VERY RARE), £1. 15s
Horrocks's short life is one of the most shining illustrations in the whole romance of science. He observed for the first time, with a little half-crown telescope, on a Sunday afternoon, Nov. 24 (O. S.), 1639, a Transit of Venus, having first finished his Evensong, 'ad majora vocatus quam ob hæc paterga [astronomica] negligi non deuit.' He died next year, 1640, in his 23rd year.
'In the lunar theory he effected an improvement which would alone suffice to obtain for him an imperishable reputation. His beautiful explanation of the inequality in the moon's longitude, termed the evection, by means of a libratory motion of the apsidæ and a variable eccentricity, was the last great step made in the development of the laws of planetary movement previous to the establishment of the theory of gravitation by Newton.'—*I. rof. E. Grant.*
- 2000 —, MEMOIR of the LIFE and LABOURS of, with Translation of his celebrated DISCOURSE on the TRANSIT of VENUS, by ARUNDELL BLOUNT WHATTON, pr., *diagrams and chart*, post 8vo. *cl.* (scarce), 10s 6d 1859
The Venus in Sole visa, of which the above is a translation, was not included in the foregoing posthumous works, and only saw the light by care of Hevelius at Danzig in 1602.
- HORTEGA** (Juan de)—*v. ORTEGA, post.*
- 2001 **HORTON** (—, pr., *Schoolmaster at Hampton*) ACCOUNT of the EARTHQUAKES at LEGHORN in Italy, Jan. 5-16, 1742, 8vo. (pp. 26), *sewn*, 4s 1750
A careful account, with a poetical effusion in English and Italian at end.
- 2002 **HOSIER** (John, *Teacher of Navigation*) The MARINER'S FRIEND, or a Treatise on the Stars, with TABLE of STARS, 12mo. *sewn*, 2s 6d 1809
- 2003 **HOSPITALIER** (Édouard) The MODERN APPLICATIONS of ELECTRICITY, trans. and enlarged by JULIUS MAIER, 2nd [last] Ed., with many Additions, *plates and numerous woodcuts*, 2 vols. 8vo. *cl.*, 7s 6d (p. £1. 5s) 1883
- 2004 **HOSTE** (Paul, s.j., *Prof. Mathematics, Toulon*) COURSE of PRACTICAL MATHEMATICS, particularly adapted to the Gentlemen of the Army and Navy, trans. by WILLIAM WEBSTER, 3rd Ed., corrected and improved by S. CLARKE, *numerous plates*, 2 vols. sm. 8vo. *contemporary sheep*, 6s 1769
Vol. II includes Navigation, the Theory of Working a Ship, and a Glossary of Sea Terms.
- 2005 **HOSTUS** (Matthæus) DE NUMERATIONE EMENDATA, veteribus Latinis et Græcis usitata; *with device on title*, 12mo. *hf. calf neat* (VERY RARE), £1. 10s *Antwerpæ, ex off. Christ. Plantini*, 1582
*A very rare work, unknown to Brunet, Graesse, Poggendorff, and other bibliographers. The only reference to it which the advertisers have been able to trace is in Prof. de Morgan's *Arithmetical Books*, who—although having seen no copy himself—quotes it on the strength of Dr. Peacock's 'History of Arithmetic'.*
- 2006 **HOUDAILLE** (Capitaine) Sur une MÉTHODE d'ESSAI scientifique et pratique des OBJECTIFS PHOTOGRAPHIQUES et des INSTRUMENTS d'OPTIQUE; *with folding plate*, and 31 *woodcuts*, roy. 8vo. *sewn*, 1s 6d 1894
- 2007 **HOÛEL** (Jules) COURS de CALCUL INFINITÉSIMAL; *with diagrams*, 4 vols. roy. 8vo. *sewn*, £1. 7s 6d (p. £. 50.) 1878-81
- 2008 **HOUGHTON** (Thomas) RARA AVIS in TERRIS: or the COMPLEAT MINER, containing the Liberties, Laws and Customs of the LEAD-MINES, within the Wapentake of Wirksworth in Derbyshire; in 59 Articles, being all ever made; with the Art of DIALLING and LEVELLING GROOVES; and Explanation of the MINERS TERMS, *woodcuts*, 16mo. *contemporary sheep* (last l. missing, and another torn, but a sound copy); RARE, 17s 6d 1681
FIRST EDITION (unknown to Lowndes) of this curious work, which claims to contain the first account of 'Levelling Grooves'; a thing greatly desired by all Miners; being a subject never written on before by any.'
'Houghton is valuable for the laws relating to mines, and his explanation of miners' terms, etc.'—*Lowndes.*
- 2009 **HOUSTON** (Edwin J.) DICTIONARY of ELECTRICAL WORDS, TERMS, and PHRASES, *illustrated*, sq. cr. 8vo. (pp. 656), *cl.*, 2s 6d (p. 10s 6d) New York, 1889
- 2010 **HOUEZAU** (Jean Charles; *Directeur de l'Observatoire de Bruxelles*) MÉTHODE pour DÉTERMINER SIMULTANÉMENT la LATITUDE, la LONGITUDE, l'HEURE et l'AZIMUT, pour des Passages observés dans deux Verticaux, 4to. (pp. 26), *cl.*, 3s 6d [Bruxelles, 1853]
- 2011 —, et Albert LANCASTER, *Bibliothécaire de cet Établissement*: BIBLIOGRAPHIE GÉNÉRALE de l'ASTRONOMIE, on Catalogue méthodique des Ouvrages, des Mémoires, et des Observations astronomiques publiés depuis l'Origine de l'Imprimerie jusqu'en 1880; *with chart*, 2 thick vols. impl. 8vo. in 3, *sewn*, WITH AUTHOR'S INSCRIPTION (*see below*), £9. Bruxelles, 1887-9-2
'A Monsieur Jenatzy, Chef de division au Ministère de l'Agriculture, hommage des auteurs. J. C. HOUZEAU. A. LANCASTER.'—*Inscr. on title of v. I. 1.*
The most important bibliography on the subject, the 2nd volume of which is now out of print and excessively scarce. It contains in Vol. I. I. an interesting Introduction on the History of Astronomy by M. Houzeau (pp. 310), and a Bibliography of Astrology; in Vol. I. 2: Biographies et commerce épistolaire; Ouvrages didactiques et généraux; Astronomie sphérique; Astronomie théorique; in Vol. II: Mémoires et Notices insérés dans les Collections académiques et les Revues. A proposed third part of vol I, and vol. III have never been published.
- 2012 **HOWARD** (Luke, F.R.S.) ESSAY on the MODIFICATIONS of CLOUDS, 8vo. *cl.* (scarce), 5s 1832
'This essay gave him a scientific fame. It applies the methods of Linnæus to the varying forms of the clouds. The author defines their three chief modifications, which he names Cirrus, Cumulus, and Stratus, and four intermediate or compound modifications, the best known of which is the Nimbus or rain-cloud. These names have been generally adopted by meteorologists.'—*Thomas Hodgkin, D.C.L.*
- 2013 **HUDSON** (Ronald William Henry Turnbull) KUMMER'S QUARTIC SURFACE, *with front. and diagrams*, 8vo. *cl.*, 5s 6d (sells 8s nett) Univ. Press, Cambridge, 1905
The author had a brilliant mathematical career and became a Fellow of St. John's Coll., Cantab., but died from rock-climbing in Wales in his 29th year in 1904.

- 2014 **HUES (Robert)** A TREATISE descriptive of the GLOBES constructed by EMERY MOLYNEUX, published in 1592, edited by SIR CLEMENTS R. MARKHAM; also SAILING DIRECTIONS for the CIRCUMNAVIGATION of ENGLAND, and for a Voyage to Gibraltar, from a XVth Century MS., edited by JAMES GAIRDNER, with Glossary by E. DELMAR MORGAN, *front. and map*, 8vo. *cl.*, 10s 6d
Hues sailed round the World with Thomas Cavendish, and was a friend of Thomas Chapinan the poet, and of Sir Walter Raleigh.

- 2015 **HULL (Edward, F.R.S.)** The COAL-FIELDS of GT. BRITAIN: their History, Structure and Resources, with the Coal-Fields of our Indian and Colonial Empire, and of other Parts of the World, 5th [last] Ed., revised, embodying the Reports of the Royal Commission of 1904, 2 *plates*, 13 *maps* (the large folding one in pocket), and *diagrams*, 8vo. *cl.*, 10s (p. 14s nett) 1903

- 2016 ——— THIRD EDITION, revised and enlarged, 14 *plates and maps*, and 23 *woodcuts*, 8vo. *cl.*, 5s (p. 16s) 1873

The standard work on the subject.

- 2017 ——— SKETCH of GEOLOGICAL HISTORY, with coloured folding diagram, cr. 8vo. *cl.*, 2s 1887

- 2018 ——— VOLCANOES: Past and Present, with 4 *plates* and 41 *woodcuts*, post 8vo. *cl.*, 2s 1892

- 2019 **HULLMANDEL (Charles Joseph)** The ART of DRAWING on STONE; giving a full Explanation of the various Styles, the different Methods, the Modes of Correcting, and the several Causes of Failure, new Ed., revised, with 9 *lithographs by the Author* (2 on India paper), 8vo. *hf. roan* (scarce), 15s 1835

‘His practice and study resulted in the discovery of a new mode of preparing the stones. . . . Among the many other artists who availed themselves of his processes for the production of their drawings were Stanfield, David Roberts, Haghe, Nash, and Catemrole. With the last he was allied in the perfection of his invention of lithotint.’—*Cosmo Monkhouse*.

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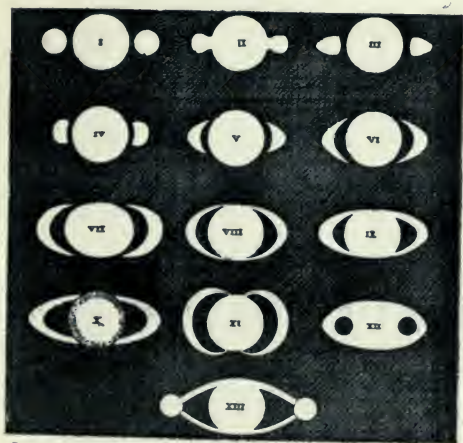
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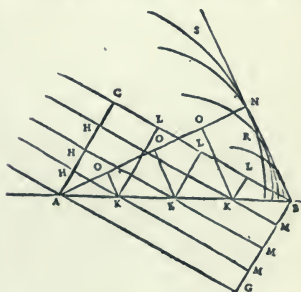
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DE LA REFLEXION. CHAP. II. 21

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verre ou autre corps, A B, que d'abord je considéreray comme parfaitement unie (me réservant à parler des inégalités, dont elle ne peut estre exempte, à la fin de cette démonstration) & qu'une ligne A C, inclinée sur A B, représente une partie d'une onde de lumière, dont le centre soit si loin

que cette partie A C puisse estre considérée comme une ligne droite; parce que je considère tout cecy comme dans un seul plan, n'imaginant que le plan, ou est cette figure, coupe la sphère de l'onde par son centre, & le plan A B à angles droits; ce qu'il suffit d'avertir une fois pour toutes.

C 3

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CHRISTIANUS HUGENIUS

natus 14 Aprilis 1629.

denatus 8 Junii 1695.

Per Petrum Paulum

LUGD. BAT. Apud JANSSONIOS VANDER Aa. Bibliopolas.

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Portrait of Huygens.

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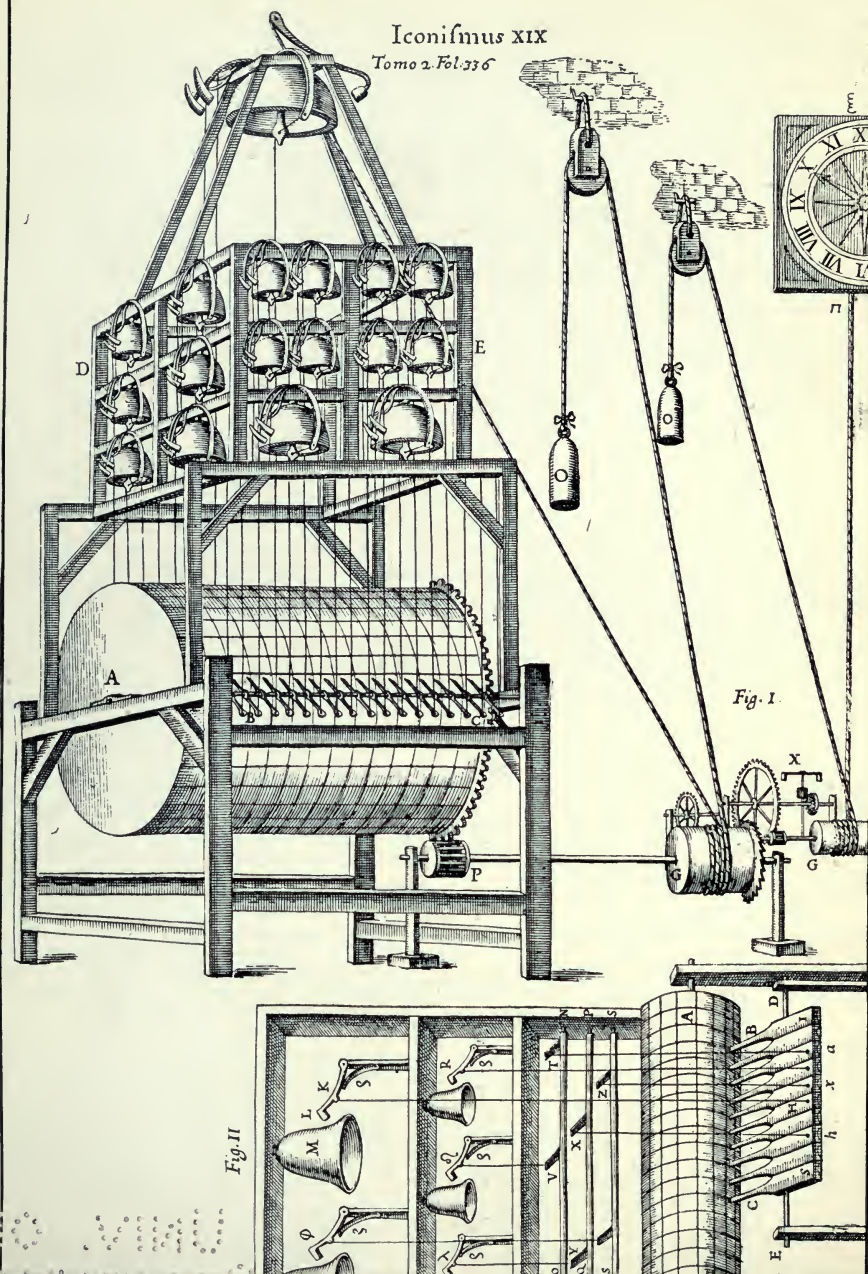
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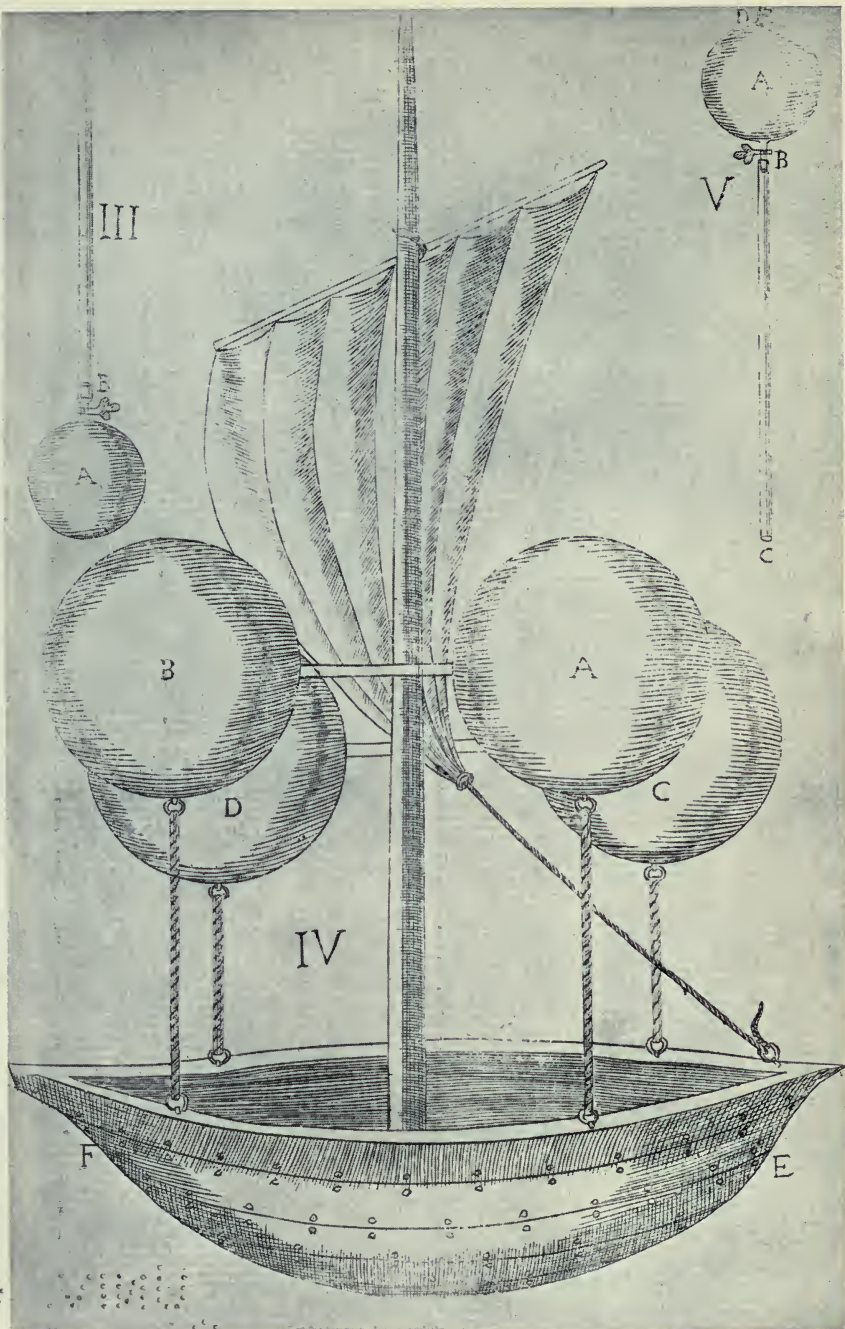
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No. 2421 (page 121).

The earliest suggestion of a balloon (A.D. 1670)

2404 **LAMBERT** (Johann Heinrich) PHOTOMETRIA, sive de MENSURA et GRADIBUS LUMINIS, COLORUM et UMBRÆ, editio princeps; with 8 plates, sm. 8vo. old hf. calf (RARE), £1. 5s
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Lambert's most important work, *Pyrometrie* (Berlin, 1779), is a systematic treatise on heat, containing the records and full discussions of many of his own experiments.—*Ency. Brit.*

2407 [—] SYSTÈME du MONDE, première édition, 12mo. old hf. calf (fine copy), with bookplate of Charles 3rd Earl Stanhope, F.R.S., 5s
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An abridged translation of the 'Cosmologische Briefe' by J. B. MERIAN.

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1800

2409 — ZUSÄTZE zu den LOGARITHMISCHEN und TRIGONOMETRISCHEN TABELLEN zur Erleichterung und Abkürzung der bey Anwendung der Mathematik vorkommenden Berechnungen, large 12mo. old vellum, 5s
Berlin, 1770

The above copy belonged to THOMAS CLAUSEN, the astronomer, and has his auto. 'Thomas Clausen. Altona 1825' on title, and a MS. index at end in the same handwriting.

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In this work the author was the first to maintain—that was then considered a paradox, and even ridiculed by Lavoisier—that oxygen does not form a necessary constituent of acids.

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It is one of the greatest curiosities of the history of science that Napier constructed logarithms before exponents were used. . . Napier's process is so unique and so different from all other modes of presenting the subject that there cannot be the shadow of a doubt that this invention was entirely his own; it is the result of unaided, isolated speculation. . . Napier's great invention was given to the world in 1614 in a work entitled *Mirifici logarithmorum canonis descriptio*. In it he explained the nature of his logarithms, and gave a logarithmic table of the natural sines of a quadrant from minute to minute. — Prof. Cajori.
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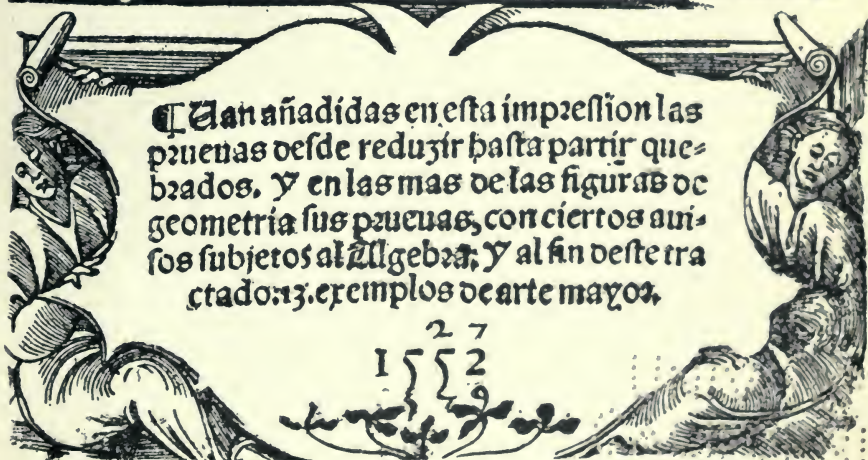
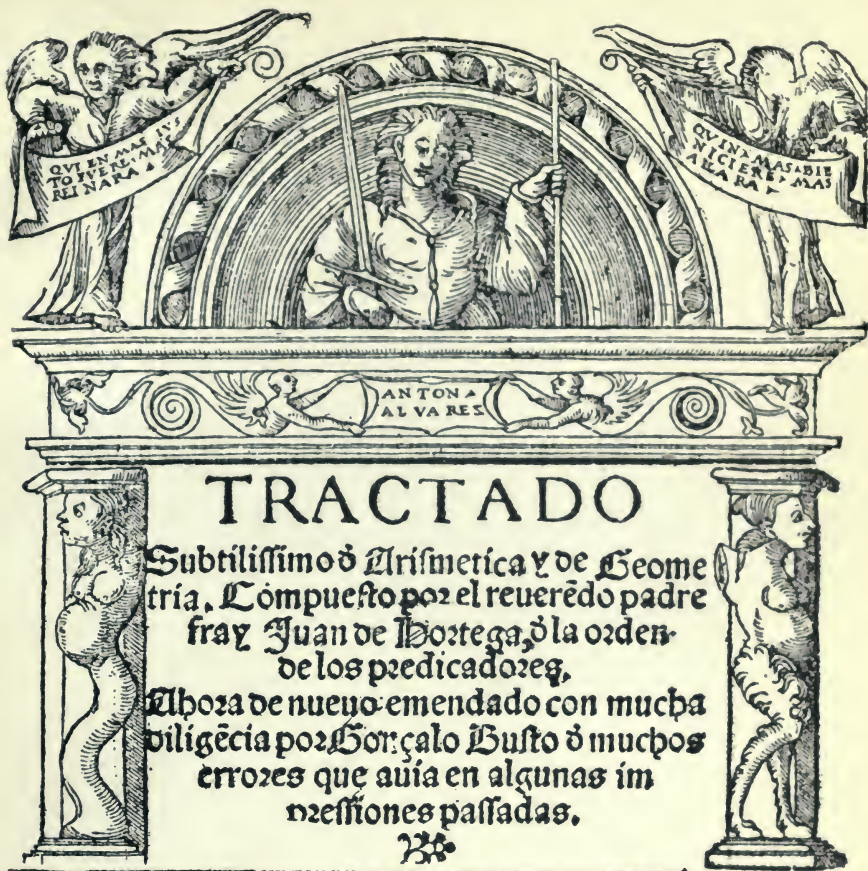
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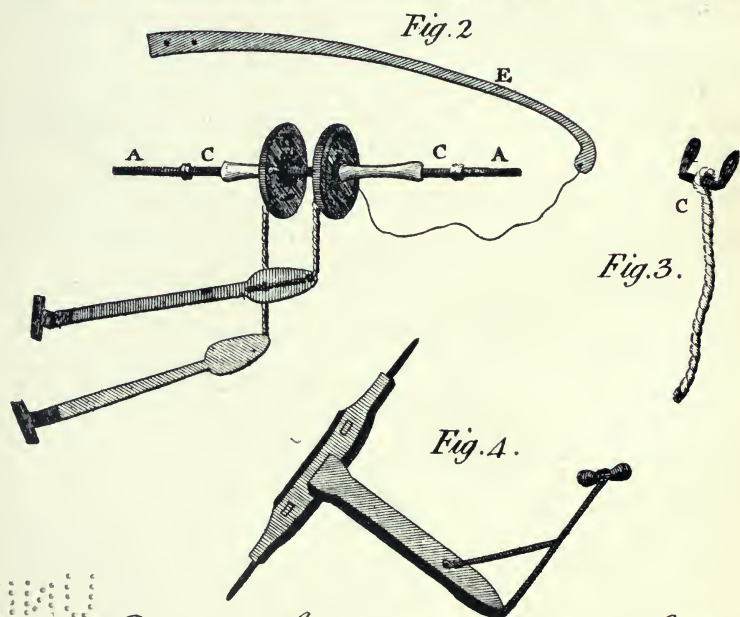
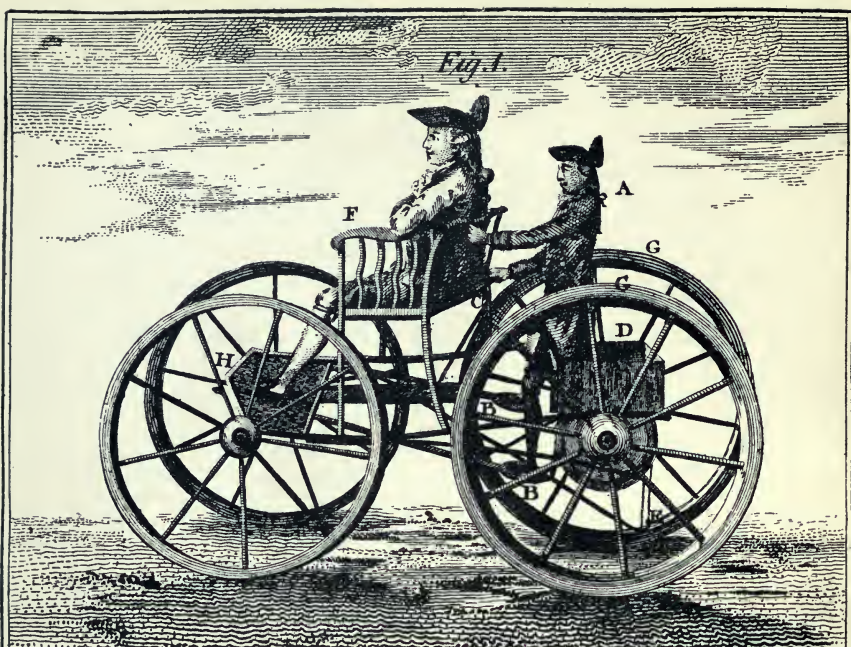
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 casi degni a ogni occurrentia exemplificatiui. per vie ordinarie e ancora straordinarie con
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 pediti. cioe negociaria. e algebratica. co declarazione dela parte o parti. che in denari contanti excol-
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 tutto l'uniuerso maxime del modo di vinegia applicabile aqualuncaltro si voglia. cioe di la
 pere tenere con tutta diligenza in quaderno. con suo glorioale. e memoriale. ouer vacher-
 ta altramente squartafoglio. ouoi dir squartafaccio quale e lozigne e radici sempre de tutti li libri e scri-
 pture che li mercanti tengano in tutti luoghi del mondo. commo in quel luogo intenderai per ordine
 de la sua tauola de nange in principio de ditto trattato posta distintamente per li so capitoli. La qual

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— *v.* ARISTARCHUS, *ante*.

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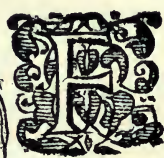
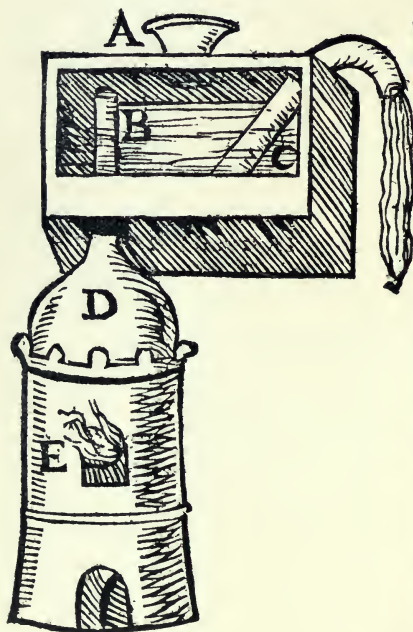
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tro, ò di sta-
gno, e sia nel
fondo busato,
per doue passi vna canna di
vn'ampolla da distillare,
che sia D, e questa habbi
vna, ò due oncie d'acqua
dentro, e sia il collo salda-
to nel fondo della cassa, che
nò possa di là scorrer fuori.
dal fondo della cassa si par-
ti vn canale tanto lontano
dal fondo quanto basti à
scorrer l'acqua, e questo ca-
nale passi per lo couerchio
fuori, poco lontano dalla
sua superficie. questa cassa
si riempi di acqua per il bu-

so A, e poi si ferri bene, che non possa respirare. all'ultimo po-
nerete la detta boccia sopra il fuoco, & andate scaldandola pian-
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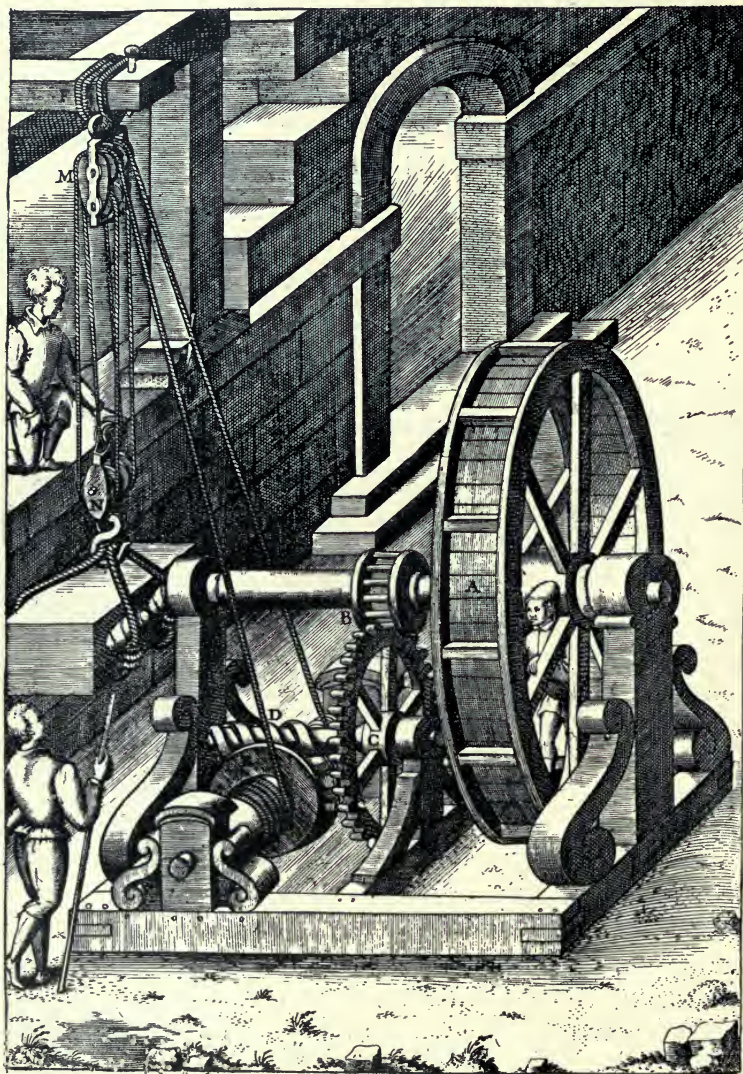
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- 3710 — **De FURTIVIS LITERARUM NOTIS, vulgò de ZIFERIS Libri IV, editio princeps; with woodcuts (with MOVABLE SLIPS), and fine woodcut ornaments, cr. 4to. old Italian vellum (blank bottom of title margined), £1. 5s** Neapoli, Joa. Maria Scotus, 1563
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- 3712 — **MAGIæ NATURALIS LIBRI XX, in quibus Scientiarum Naturalium Divitiæ et Deliciæ demonstrantur, iam de novo, ab omnibus Mendis repurgati, in Lucem prodierunt; accessit INDEX; with woodcuts and diagrams, thick 12mo. old calf (back slightly damaged), 10s 6d** Hanovic, 1644
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- 3713 — **De MUNITIONE Libri III; with numerous woodcuts, cr. 4to. boards, uncut (fine copy), 10s** Neapoli, 1608
- Treating of fortification.
- 3714 — **PNEUMATICORUM Libri III, quibus accesserunt CURVILINEORUM ELEMENTORUM Libri II, editio princeps; with numerous woodcuts and diagrams, 2 vols. sm. 4to. in 1, white vellum (side margins neatly mended, but a sound copy); RARE, £1. 1s** ib., 1601
- This work is of interest as containing the earliest attempt towards measuring the volume of steam given off by a given quantity of water.
- 'An apparatus similar to that of Hero of Alexandria is described by della Porta, in his *Pneumatica*, published in 1601, with this addition, that the condensation of steam within a close vessel is described as a means of producing a vacuum, and thereby causing water to ascend and fill the vessel.'—*Prof. Rankine, F.R.S.*
- 3715 — **POMARIUM: Sylvas ceduum et glandarium, Olivetum, Vineam, Arbustum, Hortos Coronarium, et Olitorum, Segetem, Pascua, Cultum, et quicquid ad universam agriculationis historiam pertinere visum est; with vignette on title, and woodcut initials, cr. 4to. sound copy in old hf. vellum extra (VERY RARE), £1. 5s** ib., 1583
- This seems to be one of the rarest of della Porta's writings; it was unknown to Brunet and Graesse, nor is it contained in a full list of the author's works in *Biogr. Gén.*
- 3716 — **De REFRACTIONE OPTICES Parte Libri IX, editio princeps; with numerous diagrams, sm. 4to. sound copy in limp vellum, 18s** ib., 1593
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- The author also explains in the work the twinkle of stars as the result of the dispersion of their light in the atmosphere.
- 3717 — **I TRE Libri de' SPIRITALI, cioè d' INALZAR ACQUE per FORZA dell' ARIA; with numerous woodcuts, cr. 4to. FINE COPY in contemporary limp vellum (RARE), 15s** ib., 1606
- 'On trouve à la page 75 de cet opuscule une figure représentant la machine inventée par Porta pour élever l'eau à l'aide de la force élastique de la vapeur, figure dont Fr. Arago a donné un fac-simile dans son *Histoire des machines à vapeur*.'—*Brunet*. There is also an illustration of a thermoscope on page 76.

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FIGURE CLXX.



No. 3881 (page 195).

One of 195 copperplates.

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Venetiis, 1679
- A VERY RARE WORK, which seems to be quite unknown to bibliographers, e.g., Poggenдорff, Montucla, Graesse, or Brunet, nor does anything seem to be known of the author, who is not included in the *Biographie Générale*.
Part II contains 'De Horologii Solaribus describendis per Tabulas Gnomonicas; Tabularum Gnomonicarum Usus per Peripheriam et Regulam'; and 'Tabulæ Gnomonicæ CLXXXIV, pro Delineandis Sciathericis Italicis et Babyloniacis', etc. engraved on 181 pp.
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Édition très-estimée des astronomes, et que l'on préfère, avec raison, à celle de 1541.—Brunet. It contains the Almagest, with additions by Gaucico, and introduction and annotations by the editor; de Iulietis Libri IV: Centiloquium; Inerrantium Stellarum Significationes; Procli Diadocorū Hypotyposis Astronomicarum Positionum (pp. 46).

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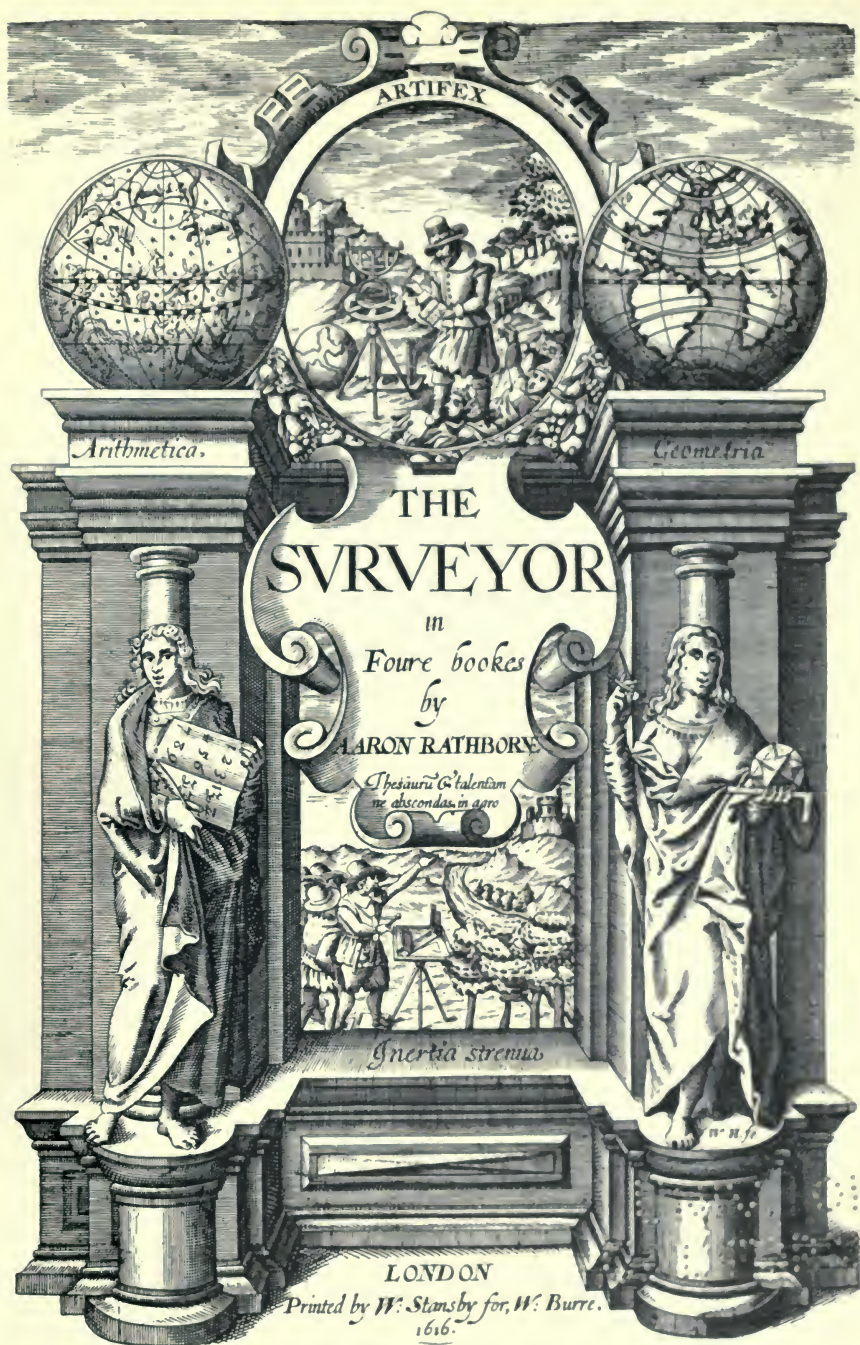
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No. 3904 (page 196).

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of know-
ledge.
longe (bee it neuer so
shorte in deed) to hym
that desirously looketh
for any thing: for as the
obtainig of it bringeth
great pleasure, namelye
the thinge it selfe being
profitable; so the wante
therof causeth displea-
sure and cōtinuall grief
tyll the desire be eyther
fully satisfied, other



partly (at the least) accomplished.

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Schollar. This oftentimes as I haue considered, maketh me to muse what mynd is in them, which care for no knowledge, nor esteeme any science.

Maister. This is the greatest point of all ignorance, not

A.i.

to

The grosse-
nes of i-
gnorance.

No. 3910 (page 197).

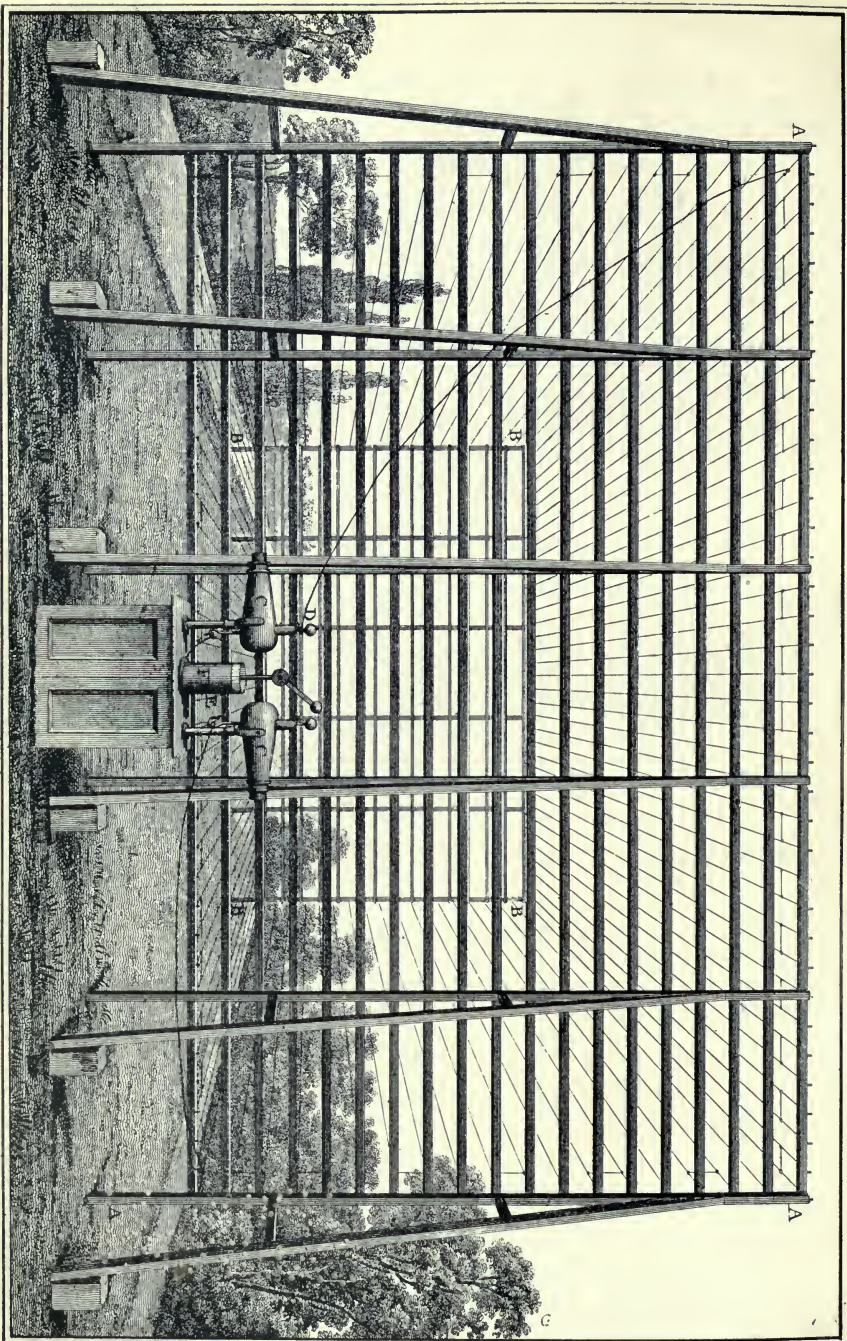
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The Table of Longitudes which I have Calculated, containing the Leagues, Miles, and Staves, that make a Degree in any Parallel, between the Equinoctial and the Poles.

10. Leagues.							
Lat.	Le.	M.	Staves	Lat.	Le.	M.	Staves
1	10	1	994	21	17	0	451
2	10	1	994	22	17	0	451
3	10	1	994	23	17	0	451
4	10	1	994	24	17	0	451
5	10	1	994	25	17	0	451
6	10	1	994	26	17	0	451
7	10	1	994	27	17	0	451
8	10	1	994	28	17	0	451
9	10	1	994	29	17	0	451
10	10	1	994	30	17	0	451
11	10	1	994	31	17	0	451
12	10	1	994	32	17	0	451
13	10	1	994	33	17	0	451
14	10	1	994	34	17	0	451
15	10	1	994	35	17	0	451
16	10	1	994	36	17	0	451
17	10	1	994	37	17	0	451
18	10	1	994	38	17	0	451
19	10	1	994	39	17	0	451
20	10	1	994	40	17	0	451
21	10	1	994	41	17	0	451
22	10	1	994	42	17	0	451
23	10	1	994	43	17	0	451
24	10	1	994	44	17	0	451
25	10	1	994	45	17	0	451
26	10	1	994	46	17	0	451
27	10	1	994	47	17	0	451
28	10	1	994	48	17	0	451
29	10	1	994	49	17	0	451
30	10	1	994	50	17	0	451



TO
THE RIGHT HONORABLE,
THOMAS,
Earle of ARUNDEL and SURRY,
Lord High Marshall of England,
Knight of the Noble Order of the
Garter, and One of his Majesties
most Honourable Privie
Council.

RIGHT HON:



When a right Noble disposition is once generally discovered, it emboldens men that are meer Strangers, to press into their presence, provided they errant are onely concerning vertuous Actions, which motive hath made these rude lines voyd of all Rhetoricke, runne with such haist to your Lordships hands, intrating for a favourable acceptance of a

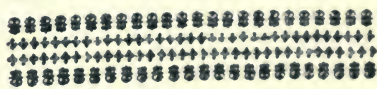
The Epistle Dedicatorie.

few experimentall Conclusions, performed in the admirable Art of Navigation, by one that is as much a stranger to your Lordship, as I am to the Land and my Kinsfolkes; many long Voyages having banished me from the remembrance of them both; so that I may justly asseme, I am scarce knowne to eyther of them, except now by reading my Name, they rub up their remembrance and finde me revived, who have layne a long time rak'd up in the embeyes of oblivion. Howsoever it happen in that respect, it is a matter very indifferent to my mind; for I onely desire, that these my Pradices may prove pleasing to your Lordship, which although they are delivered in a blunt phraise, I assure you (Right Honourable) will speake the plaine Truth, otherwile they should not dare to desire such Noble protection, if they could not deserve and merit that which is most esteemed amongst vertuous mindes: Therefore I doe in a manner assure my selfe they will gaine Your gracious aspect, which is too great a reward, to let fall upon the first borne of my braine, and so will bind me perpetually to study, how to illustrate my present performance, that it may ever gaine Your Honours goodwill.

Your Lordships, to Command
in any service.

CHARLES SALTONSTALL:

The Navigator. 65



CHAP. II.

The order and considerations which are
to be observed when you are to find the distance
betwixt any two places Assigned, according
to the Arch of a great Circle
extended.



Doe desire that you would take some little paines in thoroughly acquainting your selfe with the former short Theorems or definitions, before you proceed farther into the work. For I assure you, they will give you so great a light perfectly to conceive and rightly to understand the true reason, that it will be well worth your labour: But to proceed in the finding out of the true Distance betwixt any two places upon the Terrestrial Globe, you must in the first place, provide your selfe of a Circle containing in the Diameter, about some 12. Inches, for if it be smaller, the degrees will be so little that halfe a degree will be of no consequence, which is tenne Leagues in distance; therefore the larger the better, this Circle must bee divided most exactly into 160. degrees equal parts, with figures set to each 5. degrees, for the reader numbering, and to proceed untill it make 160. degrees, which concludeth the whole Circle, as this Figure followeth plainly expresseth.

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Dresden, 1700
VERY RARE; unknown to Poggendorf, Graesse, Brunet, etc. The plates are most interesting as showing geological sections of lodes, mine-timbering, winding apparatus, smelting and refining processes, etc. as practised in Saxony in the Seventeenth Century.
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Main *14112. A RARE EDITION, consisting of 69 ll., with 34 or 35 lines to a page. It is the third edition having the commentary of REGIOMONTANUS, the first having been issued by Ratdolt in 1482.

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(No. 1642) mentions only a 4to. edition of the above issue, dated 1499.

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[col., v. I:] in Alma Complutensi Universitate, apud Michaelem de Eguia xv. Decembris, 1526

VERY RARE, and typographically of great interest, having been printed only 10 years after the famous Complutensian Polyglott Bible. It was unknown to Houzeau-Lancaster, who only quotes (No. 1643) a folio edition of Paris of the above date, edited by ORONTIUS FINÆUS.

Ciruelo's mathematics comprise Arithmetic, Geometry, Circle-Squaring (intending a solution of the problem, and unknown to Prof. de Morgan), and Perspective. It has no colophon, which may possibly be missing. At end is 'Petri Cirueli Darocensis questioncula prelia in MUSICAM speculativam Divi SEVERINI POETII (sign. A 1—8, B 1—8, and C 5 leaves —3 apparently missing—in all 23 ll.), which does not seem to belong to the work, as the last pages bear the date 1528.

*Ciruelo fut un des hommes qui contribuèrent le plus à la diffusion des sciences exactes au XVI^e siècle.—*Biogr. Gén.*

- 4174 — **LIBELLUS de SPHERA**; accessit COMPUTUS ECCLESIASTICUS, etc. etc., cum Præfatione PHILIPPI MELANCHTHONIS; *with folding plate, woodcuts, diagrams, and tables, 16mo. vellum, with bookplate of Philip 2nd Earl Stanhope, F.R.S., 10s 6d*
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One of the last editions of the work, interesting as showing its continued popularity, in spite of the numerous errors it contains, already pointed out by Barozzi in 1570. It was unknown to Houzeau-Lancaster (No. 1653), who mention the edition of 1601 as the last of this issue.

- 4175 — **VINET** (Elie) SPHERA JOANNIS DE SACRO BOSCO, EMENDATA, ejusdem Scholia in eandem Spheram, necnon PIERII VALERIANI Compendium, et PETRI NONII Demonstratio de Inæquali Climatum Latitudine: eodem VINETO interprete; *with numerous woodcuts, 16mo. old vellum (headlines shorn, and binding damaged), 7s 6d*
Vinetiis, 1562

Houzeau-Lancaster, No. 1657.

— v. CLAVIUS, ante.

- 4176 **SADLER (James)**: AUTHENTIC NARRATIVE of the AERIAL [*sic*] VOYAGE of MR. SADLER, across the IRISH CHANNEL, from Belvedere-House, Druncondra, on Oct. 1st, 1812, with Observations on the Important Objects connected with Aërostatic [*sic*], *with map, 8vo. (pp. 24), sewn (title soiled); RARE, 12s 6d*
Dublin, 1812

In spite of a rent in the balloon (which he partially repaired with his neckcloth) he nearly succeeded in crossing the Channel; but when over Anglesey a strong southerly current carried him out to sea, and he had a most perilous escape, being rescued by a fishing craft, which ran its bowsprit through the balloon.—*D. N. B.*

The above account contains a poem by ERASMUS DARWIN.

- 4177 **SADLER (Windham William, son of the above)** NARRATIVE of the AERIAL [*sic*] VOYAGE across the IRISH CHANNEL, from Portobello Barracks, Dublin, on July 22, 1817, 8vo. (pp. 25), *sewn (map wanting); RARE, 10s 6d*
Dublin, 1817

This account was unknown to Hatton Turner. 'He rose to a great height, obtained the proper westerly current, and managed to keep the balloon in it across St. George's Channel. In mid-channel he wrote, "I enjoyed at a glance the opposite shores of Ireland and Wales, and the entire circumference of Man". Having started at 1.20 p.m., he alighted a mile south of Holyhead at 6.45 p.m.'—*D. N. B.*

He was killed on his 31st ascent near Blackburn.

- 4178 **SAGE** (Balthazar Georges, de l'Institut) L'ART d'ESSAYER l'OR et l'ARGENT; Tableau comparé de la COUPELLATION des Substances métalliques, par le moyen du PLOMBON du BISMUTH: Procédés pour obtenir l'Or plus pur que par la voie du Départ; *with 4 folding plates on copper, 8vo. seven, 10s 6d*
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*Sage peut être regardé comme ayant créé la doctine en France, et c'est là son plus beau titre de gloire.—*Biogr. Gén.*

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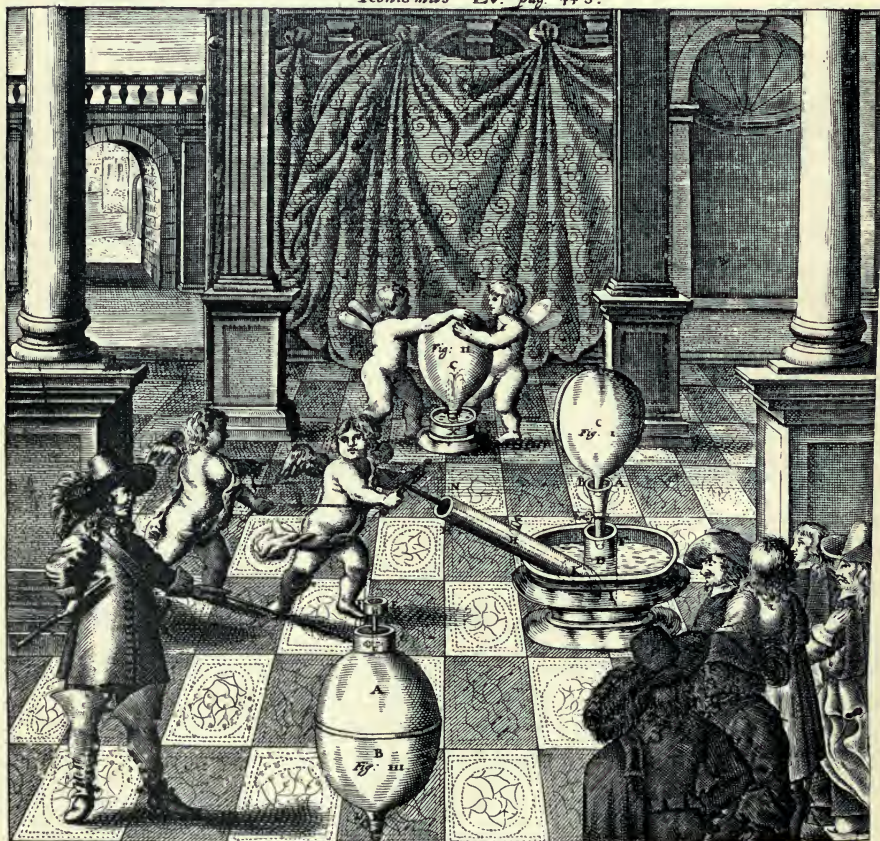
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MERCKT.

Tis openbaer, dat by alden de schalen yet fwaerder waren dan bouen gheeft is, ofte dat in haer eenige een waerchen gheleert werden, soo en soude den balck dan niet alle ghelike hooften diemmen hem gheeft, maer euewydich bliuen vanden lichteinder, daerom en sijn sulcke waeghen niet de volmaecte.

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Twierck. Men sal des lichaemken balck opperffen cant A B voortrecken ix in C, ende lazen inde lini B C de scherpen comen den waer dwerfals D E, welckende dat de scherpe van D neerwaert strecke, ende van E opwaert, Daerna salmen van het dickerende des balck naer B C, soo veel afvren ofte waeren, tot dat alles tot huyken



Fueftalwichtich hanghe, ende dat bouen dien de scherpe vanden dwerfals D (chuyken F gheueet sijnde) swaerheit is middellini bliue des

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Ghelijck des driehoek rechter sijde tot de slinker, also rftalwicht des cloots op de slinker sijde, totter rftalwicht des cloots op de rechter sijde.

TONGHEVEN. Laet ABC een driehoek wesen diens plat fy rechthouckich op den lichteinder, ende den grond A C euewydich vanden lichteinder, ende op de sijde A B, die doebel fy an B C, ligge een cloot D, ende op de sijde B C een cloot E, euewydich ende euegroot met den cloot D. **TWIERCKDE.** Wy moeten bewyfen dat ghelijck de sijde AB 1, tot B C 1, alsoo rftalwicht des cloots E, totter rftalwicht des cloots D.

TERTIUM. Laet ons maekken rondom den driehoek ABC eenen crans van veertien clooten, euegroot, euewichtich, ende euewichtich van makanderen, als E, F, G, H, I, K, L, M, N, O, P, Q, R, D, al ghehoert an een lini, streckende door haer "middelpunten, also dat sy op de middelpunten oock twee clooten passen op de sijde B C, ende vier op B A, dat is ghelijck lini tot lini, also cleuen tot clooten; laet oock an S, T, V, den vasten punt staen, ouer welcke de lini ofte rftor der clooten siuen mach, also dat de vuer dreen des inners die bouen den driehoek staen, euewydich sijn vande sijden A B, B C, laet vughen dat almen den crans an E een ofte f'ander sijde neemden, soo rollen de clooten op de linen A B, B C. **TERTIUM.** Soo rftalwicht der vier clooten D, R, Q, P, niet een en waer met het rftalwicht der twee clooten E, F, een of ander sal fwaerder sijn, laet wesen (soo muerghelick waer) des vier D, R, Q, P. Maer de vier clooten O, N, M, L, sijn euewichtich met de vier clooten G, H, I, K, de sijde dan der acht clooten D, R, Q, P, O, N, M, L, is fwaerder na de gheslachten dan de sijde der sey clooten E, F, G, H, I, K, niet waer het fwaer alijde het lichte oerwicht, de acht clooten siuen neerwaert rollen, ende d'ander fasten sijn: Laet soo wesen, ende D fy ghe-

Centra.

Parabola.

16

S. STEVIN'S BEGHINSELEN

kende, is alijdt in 't oppervlack des omringenden waters, ouermides 't vlackvat niet en weeght euewichtich sijn an 't gheheuen lichaem A B. Reden, dat twee gheuichten die een vat cuelp den siuken oock euewichtich sijn, dier de f' begheerte. **TERTIUM.** Een stylichacm den stochter als water daert in licht, is euewichtich an 't water euegroot met sijn deel dat buuten 't water is, welck wy bewyfen mochten.



I. EIGEN

VI. VOORSTEL.

LIGGHENDE een deel des stylichacms bekender grootheyt, in water bekender swaerheit, ende d'ander deel daer buyten: Te vinden 't gheuecht des heelen lichaems.

TONGHEVEN. Laet ABCD een stylichacm wesen van form 16 foot val ende E Een waer van 'welck een terlinckche voer weeght 65 lb (soo veel weeght naer d'ernaring een Delfsche voer Delft water, ende daerop sullen wyte inde volgende voorbeelden alijdt schamen) ende des lichaems deel binnen 't water fy A C D, wiens grootheyt fy van 10000 terlinckche voer. **TWIERCKDE.** Wy moeten vinden hoe swaer 't deel lichaem A B C D fy, met al dat in ende op is.

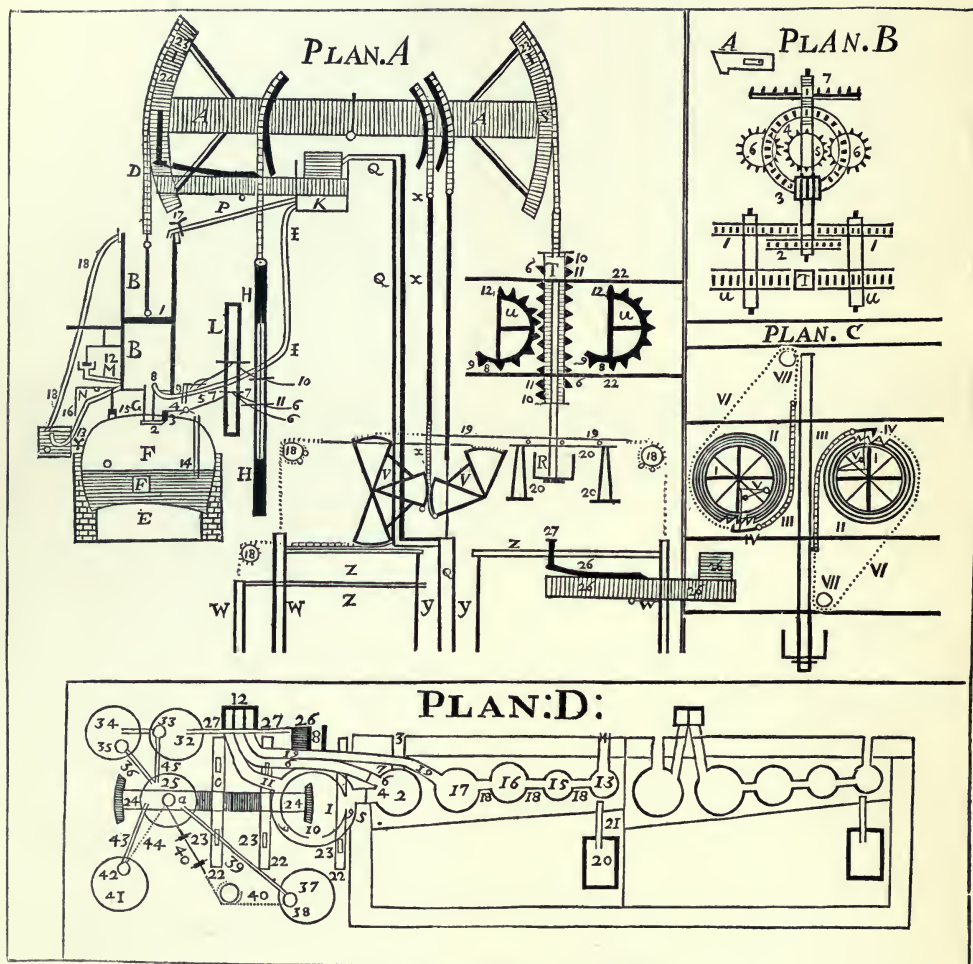
TWIERCK. Men sal 10000 menichvullighen met de 65 lb come 65000 lb voer begheerde. **TERTIUM.** Het heel lichaem ABCD is euewichtich an 't water euegroot met A C D duet het f' voorstel, maer 't water euegroot an A C D weeght 65000 lb, het heel lichaem dan A B C D weeght 65000 lb, 'wiele wy bewyfen mochten. **TERTIUM.** Ligghende dan 't deel des stylichacms bekender grootheyt, in water bekender swaerheit, ende d'ander deel daer buyten, wy hebben gheuecht des heelen lichaems gheuonden naer den eysch.



vid. de waderwichtdaag p. 81
en de waderwichtdaag p. 81
VI. VER-

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No. 4599 (page 233).

The first machine patented converting rectilinear into rotary motion (A.D. 1767).

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A very rare pamphlet, containing an account of the author's invention, the first engine for working a cane-mill, and according to Robert Stuart, the FIRST MACHINE PATENTED CONVERTING RECTILINEAR INTO ROTARY MOTION. Nothing appears to be known about its author, but there is a reference to the machine in one of James Watt's letters (Muirhead's Life of Watt, 2nd Ed., p. 274): 'One Stewart had a patent for an engine which produced a rotative motion, by a chain going round a pulley and round two barrels furnished with ratchet wheels, with a weight suspended to the free end of the chain, which served to continue the motion during the return of the engine. I have never seen this, but believe there was no fly.'
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This work is of importance in the history of the differential calculus, as having been the first to give the proof of what is known as 'Maclaurin's theorem' [v. Nos. 2761-3, ante]; but, save for Montucla, who gives a full account in his Histoire des mathématiques, v. III, pp. 223-7, the work is, curiously enough, almost unnoticed in modern histories of mathematics.

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Londini, R. Daniel, 1652
- 4609 ——— EDITIO OCTAVA; with engraved title, sm. 4to. sound copy in contemporary calf, 15s
ib., J. Redmayne, 1678
- Unknown to Poggendorff, Brunet, Graesse, Ebert, etc., nor does anything seem to be known of its author. Although numerous editions appear to have been published in England, the work is not noticed by Watt or Lowndes.
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Oxford, 1723
This pamphlet was also ascribed to John Arbuthnot, M.D., and John Keill, F.R.S.
- 4646 **STROOTMAN** (J., *Ingenieur v. d. Waterstaat*) *PROEVE van een ONDERZOEK naar de BESTE der bekende WIJZEN om hier te lande GROOTE ZEESLUIZEN te bonwen, met theoretische beschouwing van IJZEREN SLUISDEUREN, benevens beschrijving van BESTAANDE WIJDE SLUIZEN; with 6 folding plates, 4to. boards, uncut, 6s 6d* 1858
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- 4647 **STROUD** (Henry, *Armstrong Coll., Newcastle-on-Tyne*) *ELEMENTARY PRACTICAL PHYSICS, 115 diagrams, post 8vo. cl., 2s* 1899
- 4648 **STRUVE** (Friedrich Georg Wilhelm v.; *Pulkova Observatory*) *ÉTUDES d'ASTRONOMIE STELLAIRE: sur la VOIE LACTÉE et sur la DISTANCE des ÉTOILES FIXES, roy. 8vo. sewn, with auto. 'J [OHN] LEE [F.R.S.], Hartwell, 12. July. 1848' on obv. of title, and inser. as below on reverse, 6s* 1847
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- 4649 — *EXPÉDITION CHRONOMÉTRIQUE entre POULKOVA et ALTONA, pour la Détermination de la Longitude Géographique Relative de l'Observatoire Central de Russie, impl. 4to. morocco extra, g. e., with inser. from Count S. S. Owaroff, archæologist, 8s 6d* 1844
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- 4650 **STRUVE** (Hermann; *Univ. Berlin*) *ÜBER den EINFLUSS der DIFFRACTION an FERNRÖHREN auf LICHTSCHEIBEN; with diagrams, impl. 4to. sewn, with auto. of Prof. Oudemans, 3s* 1882
St. Petersburg, 1882
- 4651 — *Zur THEORIE der TALBOT'SCHEN LINIEN, impl. 4to. (pp. 13), sewn, 1s* 1883
ib., 1883
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- 4655 — *LIBRORUM in BIBLIOTHECA SPECULAE PULCOVENSIS Anno 1858 exeunte contentorum CATALOGUS SYSTEMATICUS [cum INDICIBUS], roy. 8vo. (pp. 1000), hf. calf; presentation copy to John Lee, F.R.S., F.S.A., founder of the Hartwell Observatory (SCARCE), 15s* 1860
ib., 1860
'A valuable Catalogue of Astronomical Works. A present to me from Professor F. G. W. von Struve, and presented to me by his Son in July 1860. J. LEE'.—Inscr. on flyleaf.
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- 4667 ——— THREE ACCOUNTS OF AURORA BOREALIS; and of the FORMATION of CLOUDS, as observed in the Locality of Kirkby Lonsdale, 8vo. (pp. 20), *sewn*, 2s 6d *Manchester*, 1848
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This edition was unknown to Lowndes, who only mentions those of 1669 and 1684. It contains an appendix, 'Compendium of Fortification, both geometrically and instrumentally by a Scale, by PHILIP STAYNRED, 1678'.
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VERY RARE, and unknown to bibliographers. The only reference to the author's name is in Prof. de Morgan's 'Arithmetical Books', where it is misspelt Suevius.

4679 **SUESS** (Eduard, *Univ. Vienna*) *The FUTURE of SILVER*, trans. by ROBERT STEIN, Svo. cl., Washington, 1893
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4682 **SULLY** (Henry) *REGLE ARTIFICIELLE du TEMS*. Traité de la Division naturelle et artificielle du Tems, des HORLOGES et des MONTRES de diferentes constructions, de la maniere de les connoître et de les regler avec justesse; with plate, 12mo. old calf gilt, with old armorial bookplate of Mr. Carpentier, Auditeur en la Chambre des Comptes, also that of Charles 3rd Earl Stanhope, F.R.S. (VERY RARE), £1. 15s 1717

The author, an Englishman, who settled in Paris as a watchmaker, was the inventor of the frictional roller, and was the maker of watches showing both mean and apparent time. The work contains 'Remarques sur le Discours de Mr. H. S.', by LEIBNIZ, a 'Description d'une Montre de Nouvelle Construction' by the author, and his controversy with Jacob Kress, s.j.

His justly-appreciated work, 'Règle artificielle du Temps', now *extremely scarce*.—*Nelthropp's 'Treatise on Watch-Work'*, where a full and interesting account of the author and his work will be found on pp. 88-91.

4683 **SURVEYORS' INSTITUTION'S TRANSACTIONS**, from the beginning in 1863 to 1896, 23 v.: PROFESSIONAL NOTES, 1886-1896, 7 v.—together 35 vols. Svo. cl., with folding maps and plates, and INDEX, sewn, £3. 15s 1868-96

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4686 **SUTTON** (Samuel) *HISTORICAL ACCOUNT of a NEW METHOD for EXTRACTING the FOUL AIR out of SHIPS, etc.*, with the Description and Draught of the Machines, 2nd Ed., with Two Relations given thereof to the Royal Society by DR. MEAD and MR. WATSON, and Discourse on SCURVY by Dr. Mead, with folding plate, Svo. old calf, newly rebacked, with auto. of William Vaughan (1752-1850) on title (*rare*), 12s 6d 1749

The author's invention was taken up by the Admiralty, who provided every ship with the apparatus. The above edition has a preface by RICHARD MEAD, M.D., F.R.S., in which he exclaims: 'The invention, I may venture to say, does honour to our nation, and will in time be found of more public benefit than any discovery in mechanics, which has been produced these hundred years.' There is no notice of the author in *D. N. B.*, and the work was unknown to Lowndes.

4687 **SUTTON** (Thomas, *Caius Coll.*, *Cantab.*) *THE CALOTYPE PROCESS*: a Hand Book to Photography on Paper, with specimens of unwashed and washed iodized paper, post Svo. cl. boards (*scarce*), 6s 1855

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'The first photographic dictionary published in Europe.'—*Preface*.

It is also interesting in connexion with the history of photography, and contains many recipes and processes long since forgotten.

4689 ———, and George DAWSON: *DICTIONARY of PHOTOGRAPHY*, with numerous diagrams, cr. Svo. cl., 3s 6d (p. 8s 6d) 1867

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4690 **SUZZI** (Giuseppe) *DISQUISITIONES MATHEMATICÆ*; with 2 plates and vignettes, 4to. (pp. 86), sewn, 4s Venetiis, 1723

Unknown to Poggendorff. One chapter treats of the Newton-Leibniz controversy concerning the priority of the invention of the differential calculus.

4691 **SVANBERG** (Jöns) *EXPOSITION des OPÉRATIONS faites en LAPPONIE, pour la Détermination d'un Arc du Méridien, 1801-3*, par MM. öfverbon, Svanberg, Holmquist, et Palander; with 3 plates, Svo. boards (*rare*), 12s 6d Stockholm, 1805

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This very curious and interesting work, valuable for its METEOROLOGICAL PORTION, is divided into six parts, to represent the Days of Creation. It is a kind of encyclopedia of natural and mythical history, interspersed with curious stories and quotations. In the chapter on Earthquakes is a curious reference to 'America, a conjecture how it came at the first to be unknown.' On page 443 we read 'In the Kingdom of Congo be certain great Dragons with wings, in bignes like to rams, . . . of blew and green colour.'

There is also a copious account of that heraldic beast, the Unicorn.

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- 4716 ——— ARITHMETICÆ THEORIA ET PRAXIS, Editio II. correctior; with plate, 12mo. old vellum; or, old calf, 5s 6d *ibidem*, 1665

According to Dean Peacock, Tacquet was a late employer of the old method of division.

- 4717 ——— ELEMENTA GEOMETRIÆ Planæ ac Solidæ, quibus accedunt Selecta ex Archimede Theoremata, Editio III. correctior; with plates, 12mo. old vellum; or, old calf, 5s *ib.*, 1672

- 4718 ——— ELEMENTA EUCLIDÆ GEOMETRIÆ, Planæ ac Solidæ; et selectæ ex Archimede Theoremata, quibus accedit Trigonometria, novissimam hanc Ed. adornavit, Schemata XL addidit, etc. etc. GUL. WHISTON; with plates, 8vo. old calf (fine copy), with bookplate of Philip 2nd Earl Stanhope, F.R.S., 4s 6d *Amstelodami*, 1725

'Les ouvrages élémentaires de Tacquet se recommandent par une grande clarté.'—*Biogr. Gén.*

- 4719 ——— THE ELEMENTS OF EUCLID, with select Theorems out of ARCHIMEDES, with Practical Corollaries, shewing the Uses of many of the Propositions, by WILLIAM WHISTON, pr., 6th Ed., with Appendix of Practical Geometry, by S. F[ULLER], plates, 8vo. old calf, 4s *Dublin*, 1728

Including an 'Historical Account of the Rise and Progress of the Mathematicks' (pp. 12).

- 4720 **TADDEI** (Annibale) IL RAGIONIERE PERFETTO, ossia Nuovo Corso d'Istruzioni per la di lui Professione, 4 vols. 4to. hf. white vellum gilt, 15s *Roma*, 1839

Containing an interesting historical introduction (pp. 33).

- 4721 **TAGLIANI** (Giuseppe, Canonico da Macerata) OROLOGI RIFLESSI per mezzo di un picciolo Specchio parallelo, ò perpendicolare all' Orizzonte; with arms on title and numerous woodcuts, 4to. old Italian vellum (title very slightly mended, otherwise a FINE AND UNCUT COPY); RARE, £1. 1s *Macerata*, 1648

One of the few works treating of reflecting sundials. It was unknown to Poggendorff.

AN EXCESSIVELY RARE EDITION:

- 4722 **TAGLIENTE** (Giovanni Antonio): CONSIDERANDO io IOANNI ANTONIO TAIENTE, quanto e ne | cessaria cosa a diuersi Mercatanti, & a molti Artesani | li quali fanno le sue mercantie ne le loro boteghe, & | assai di loro nō sanno la regola del tenere con | to dei loro libri sempii ne dopii, & pero | mi sono mosso a componer la presen | te opereta per quelli che hāno | debisogno accio che sapi- | no tenere ordinata | mente el detto conto del suo libro Vgnosō | come seguendo piu oltra ue- | derete la regola sua, cr. 4to. hf. vellum (the last 8 pp. partly water-stained and wormed, and parts of letters defective, also 2 very slight wormholes through the first 8 ll.), £18. 18s

[Colophon.] Hauendo io Giovanniantonio Tagliente provisionato dal | Serenissimo Dominio Venetiano, con ogni debita cura di- | mostrato a fare diverse Partite di ragione mercantile con | le sue regole secondo el consueto delli pratici mercatanti, | Et sforzatomì di narrare quito e stato il bisogno si della | Inclita città de Venetia come etiā de tutte le altre città del | la Italia, Hormai io faro fine & se per alcuno mio difet | to o uero corso di penna alcuno pelegriano ingegno retrouas | se nella presente mia opera qualche erroreprego che in | mio loco uoglia supplire, laquale e intitulata Luminario di | Arithmetica stampata cō gratia et Priuilegio del Anno di | nostra salute, M.D.XXV.

THE EARLIEST ISSUE OF THE FIRST EDITION OF THE FIRST WORK TREATING EXCLUSIVELY OF BOOKKEEPING. All editions of the work are of great rarity, but the above is exceptionally so. It is quite unknown to bibliographers, e.g., Riccardi, Brunet, Grasse, etc., nor is there a copy in the British Museum or in any other great public library.

The first author to refer at all to the 1525 edition is Mr. Richard Brown, who in his *History of Accounting and Accountants*, mentions an edition in 24 ll. of this date, which actually forms a later issue of the above edition. The above edition in 16 leaves, however, is quite unknown to bibliographers, nor with the sole exception of this and another copy in a London Professional Library, can any copy be traced as being still in existence.

- 4723 ———: CONSIDERANDO Io GIOVANN' ANTONIO TAGLIENTE quanto e necessaria cosa a li nostri Magnifi [sic] gentilluomini & ad altri mercatanti il laudabile MODO da TENERE CONTO de LIBRO DOPPIO cioe, il Zornale, el Libro con l'alphabetto secondo il consueto di questa inclita Città di Vinegia, io qui seguendo con l'agiuto del . . . ALUISE DA LA FONTANA, ui daremo lo amaestramento che con facilità lo potrete imparare, laqual opera ancor sara di molto utilità Vniuersalmente ad ogniuno, come ne l'opera uedereti; with woodcut on title of pen in hand, 16mo. boards (some ll. water-stained, otherwise a SOUND COPY); very rare, £5. 5s

[col.] Vinegia, per Giovann' Antonio di Nicolini da Sabio, 1533

This edition was unknown to Mr. Richard Brown. It consists of 36 ll., signatures A-D in eights and E in fours.

- 4724 [———] LIBRO di ABACHO il quale insegna a fare ogni ragione mercantile & pertegare le terre. Con l'arte della GEOMETRIA, & altre nobilissime ragioni straordinarie. Con la Tavola come rispondeno i PESI, & MONEDe, di molte Città & Paesi, con la inclita città di Venetia. Il quale Libro si chiama Tesoro Uniuersale; title in red within woodcut border, with large woodcut of a Business College on rev., and numerous smaller woodcuts and ornaments throughout, 16mo. old painted wrapper (a few ll. mended on blank margin, and a few others slightly gnawed, but a sound copy); very rare, £3. 15s

[col.] Venetia per Francesco de Leno, 1570

Of great rarity, like all the editions of Tagliente's Abaco. The above edition was unknown to Brunet.

It is a remarkable fact that, although Tagliente was one of the earliest and most important writers on commercial arithmetic, hardly any copies of any editions are left at the present time. This rarity may account for the fact that these works were unknown to bibliographers of scientific works, as Montucla, Poggendorff, Prof. de Morgan, etc., and that no biography of either Tagliente can be found in any biographical dictionary.

- 4725 **TAGLIENTE** (Giovanni Antonio) OPERA NOVA che insegna a fare ogni RAGIONE di MERCANTIA. Et prima a sapper releuare ogni numero, Poi a Moltiplicare, Partire, Somare, Sottrarre con le sue proue, la Regola del tre con laquale si puo fare ogni ragione di Mercantia, cioe come saria a dire. Se la libra, el centenario ouer el migliaro di una Mercantia uale tanti danari, che ualera tante libre. Et anchora a sapper fare le Ragioni delle Compagnie & baratti con altre molte ragione. Et a pertegare le terre & muri con arte Geometricale come nellopera uederete; *title within fine woodcut border, with portrait of Archimedes on rev., also numerous interesting woodcuts and ornaments*, sm. 4to. boards (3 ll. stained and last l. slightly wormed, otherwise a REMARKABLY FINE COPY), £8. 8s [col. :] *Stäpado ꝑ Bernadin Venetian de Vidali, [Venetia,], 1527*

EXCESSIVELY RARE, and unknown to Brunet, Graesse and other bibliographers. The work consists of signatures A to N (the last misprinted F) in fours, or 52 ll. in all.

- 4726 ——— **Lo PRESENTE LIBRO Insegna LA VERA ARTE de lo EXCELLÈ | TE SCRUIERE de diuerse VARIE SORTI de LITERE Le quali se | fano ꝑ geometrica Ragione, & con La pesente | opera ognuno Le Potra Imparare impochei giorni ꝑ | Lo amaistramento, | ragioni, | & | Essempi, come qui sequente | Vedrai.** [Opera del TAGLIENTE nouamente | composta cum gratia nel anno di fira salute | MDXXV; with numerous beautiful specimens of handwriting, ornamental alphabets, initials, printing characters, etc., some in white on black ground, besides full-page woodcut of writing tools, sm. 4to. hf. vellum (a very fine and large copy); excessively rare, £15.

[Venetia,] 1525

One of the earliest and most important works on calligraphy, giving a great variety of specimens of handwriting, printing characters, etc., all beautifully executed.

The above edition, the second and probably the rarest of all (which consists of 24 unnumbered ll., signatures A—F in fours), is excessively rare, and was unknown to Brunet and Graesse. Riccardi mentions this edition, but gives a very faulty copy of the title, and moreover mistakenly states that the signatures consist of A—E only. The only copy he quotes was that of the Biblioteca Comunale di Reggio. The first edition of 1521 was known alike to Brunet, Graesse, and Riccardi.

A copy of the edition of 1527 fetched £10. at auction in 1898.

- 4727 **[TAGLIENTE (Hieronymo)] OPERA** che insegna a fare ogni RAGIONE de MERCANTIA, & a pertegare le terre con arte geometrica Intitolata **COMPONIMENTO di ARITHMETICA**; *printed in gothic letter, title printed in white on black ground, with large woodcut on reverse, and numerous curious woodcuts in text, and arithmetical diagrams*, 16mo. hf. bound, rough edges (half the title missing, but a TALL AND REMARKABLY CLEAN COPY), very rare, £7. 7s s. l. aut t. n. (? 1528)

The date is given on the title, but a portion of the latter being torn off, only MDX is still discernible. Owing to the extreme rarity of all the works of both Taglientes, no complete bibliography of their works and editions has ever been given, and it is therefore impossible to identify this, or the edition given below. It consists of 88 leaves, or signatures A to Z in fours, the last l. being blank.

- 4728 ——— **ANOTHER EDITION**, *printed in gothic letter, with numerous woodcuts and ornaments*, 16mo. boards (wanting title, and with a small hole going through the larger part of the work); very rare, £5. 10s s. l. aut a.

The collation of this edition agrees exactly with the one above, but the different spelling, as well as some woodcut ornaments varying from those in it, mark it as a distinct, and judging from internal evidence, earlier edition.

According to Cicogna (in 'Saggio di Bibliografia Veneziana') the author wrote the work at the request of his kinsman Giovanni Antonio. It resembles to some extent the latter's *Opera Nova* (q. v. supra).

- 4729 **TAISNIER (Jean) OPUS MATHEMATICUM VIII Libros completeus, quorum VI priores Libri Absolutissimæ CHEIROMANTIE Theoricam . . . VII. PHYSIOGNOMIÆ Dispositionem . . . VIII. PERIAXIOMATA de FACIEBUS SIGNORUM . . . completeitur . . . Item ISAGOGEN ASTROLOGIÆ JUDICIARIE, et totius Divinatriceis Artis Encomia, cum Indice copioso**; *with author's portrait on reverse of title, and very numerous woodcuts illustrating Palmistry, Physiognomy, and Astrology*, folio, sound copy in old limp vellum (RARE), £2. 2s Coloniae Agrippinae, 1562

- 4730 ——— **ANOTHER COPY**, *sewn (slightly wormed, and 3 small holes in title)*, £1. 10s 'Il y a beaucoup emprunté au médecin B. Cocolis pour cet ouvrage, qui expose d'une façon didactique la chiromancie, la physiognomie, les présages, l'astrologie, etc.'—*Biogr. Gén.*

- 4731 **TAIT (Peter Guthrie, F.R.S.E.) ELEMENTARY TREATISE on QUATERNIONS, with diagrams**, 8vo. cl., 5s (p. 12s 6d) Clarendon Press, Oxford, 1867

- 4732 ——— **SECOND EDITION**, enlarged, *with diagrams*, 8vo. prize calf extra (nice copy), 7s 6d Univ. Press, Cambridge [1873]

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Venetia, 1606
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 ——— **EUCLEIDE MEGARENSE**—v. No. 1237, ante.
- 4744 ——— **GENERAL TRATTATO di NUMERI, et MISURE; with portraits (duplicated), and numerous diagrams**, 6 vols. folio in 2, *old vellum (back of binding of v. I damaged, title of v. III margined and stamped, a few ll. wormed, and a number slightly water-stained, but on the whole a sound and large copy)*; **very rare**, £2. 15s
ibidem, per Curtio Troiano, 1556-60
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[col.] Vinegia, 1558-62
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- 4748 ——— **QUESITI, et INVENTIONI DIVERSE, prima edizione, with portrait, woodcuts, and diagrams (title stained and mended), [col.] Venetia, 1546: La NOVA SCIENTIA, con una Gionta al Terzo Libro; with woodcut title, woodcuts and diagrams, ib., 1551: REGOLA GENERALE da SULEVARE con RAGIONE e MISURA nò solamète ogni affondata Nave; ma una Torre Solida di Mettallo, trovata da Nicola Tartaglia, delle discipline Mathematiche amatore intitolata la TRAVAGLIATA INVENTIONE, prima edizione; with portrait (different from that in 'Quesiti'), and woodcuts (ib., 1551): RAGIONAMENTI sopra la sua TRAVAGLIATA INVENTIONE, nelli quali se dichiara volgarmente quel libro di Archimede Siracusano intitolato de Insidentibus Aquæ, con altre Speculative Pratiche da lui ritrovate sopra le Materie, prima edizione, ib., 1551—4 vols. sm. 4to. in 1, old Italian vellum**, £2. 5s
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rie semper virginis & intercessione a
presenti liberari tristitia.

A B C D E F G H I K L M N O
P Q R S T U X Y Z.

Fidelium domunus om
nium conditor et rector

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Actiones nostras quesimus domine aspi
rando piecuni & adiuvando proficere
ut cuncta nostra oia & operatio a te sem
per incipiat & per te cepta finiat. Per
christum dominum nostrum. Amen.

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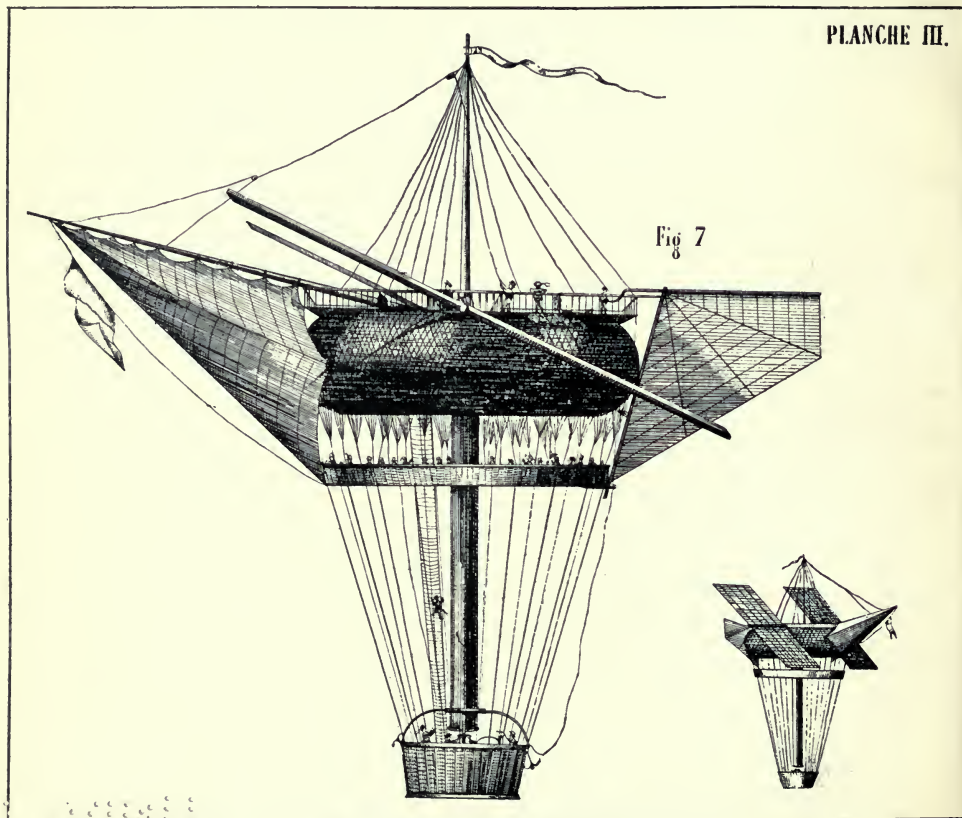
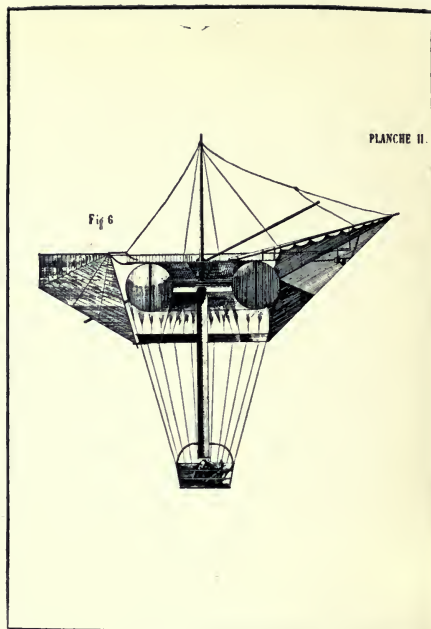
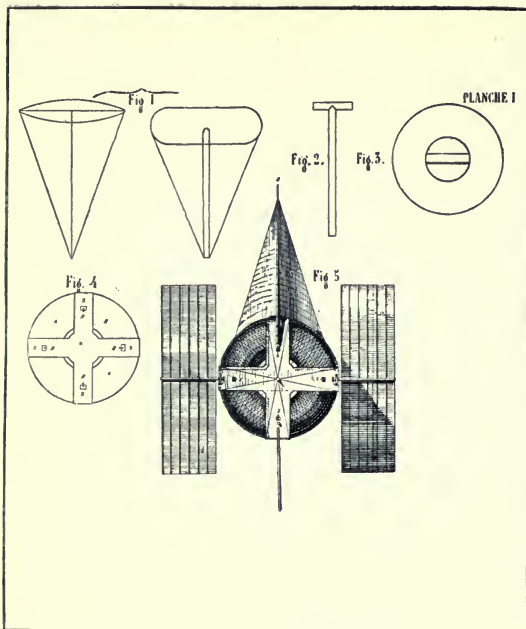
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No. 5037 (page 255).

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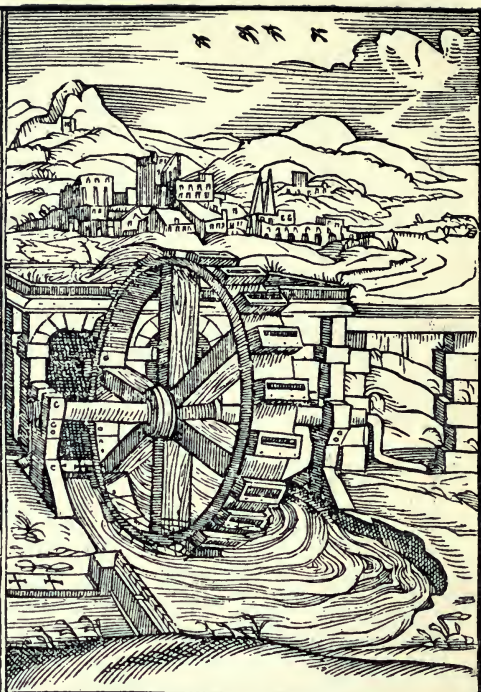
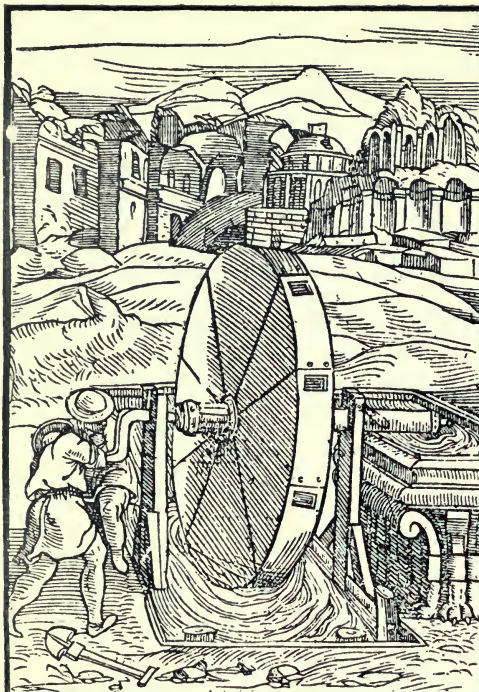
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The Sunderland copy (in calf) fetched £4. 15s.

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Book 8 deals with WATER-SUPPLY and AQUEDUCTS; the 9th with DIALLING, and the 10th with MECHANICS.

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THE FIRST ENGLISH WORK ON BALLOONING. Mr. Hutton Turner, who did not own a copy, only mentions an edition of 1784. A postscript gives an account of the ascent of J. A. C. CHARLES on Dec. 1st, 1783—the first ascent of a balloon filled with hydrogen.

There are some interesting suggestions as to the future uses of balloons, and ascents are generally recommended on medical grounds as a 'change of air'.

- 5108 **VIVIAN** (John Henry) DESCRIPTION of the PROCESS of AMALGAMATION, with 7 plates, 4to. (pp. 22), *sewn*, 4s 1825

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- 5109 **VITALE** (Geronimo, *Cler. Reg.*) LEXICON MATHEMATICUM, hoc est Rerum omnium ad universam planè Mathesim quoquo Modo, directè vel indirectè spectantium, Collectio, et Explicatio; with engraved title, and numerous engravings on copper, thick 4to. *old calf (back damaged)*, 6s 6d *Romæ, 1690*
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- 5112 — De LOCIS SOLIDIS secunda DIVINATIO GEOMETRICA in V Libros amissos ARISTÆI SENIORIS Geometræ; OPUS CONICUM, continens Elementa Tractatum ejusdem Viviani, quibus tunc ipse multa, maxima, et abdita, in Mathesi Theoremata demonstrare cogitaverat . . . Addendis auctum, etc.; with fine portrait of Galileo by F. A. Lorenzini, 2 folding plates and numerous diagrams, folio, (?) LARGE PAPER; *old calf extra (joints weak, otherwise a FINE COPY)*, with bookplate of Philip 2nd Earl Stanhope, F.R.S., 16s 6d *ib.* [1701]
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 This important work formed the basis of Vega's Thesaurus (*q. v. ante*), where it is termed 'opus rarissimum', and contains the logarithmic sines and tangents to ten places of figures, with their differences, for every 10 seconds in the quadrant, also Briggs's tables of the first 20,000 logarithms carried to ten places of figures, besides a description of the tables and their applications, chiefly extracted from Briggs's *Trigonometria Britannica*, which was published in the same year by the same publishers.
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- 5125 — SOLUTION d'un PROBLÈME de SITUATION relatif au CAVALIER des ÉCHECS, 4to. (pp. 9), *sewn*, 2s *1850*

- 5126 **VOLTA** (Conte Alessandro; F.R.S.), COLLEZIONE dell' OPERE del [publicata da VINCENZIO ANTINORI]; with fine engraved portrait by Raphael Morghen, and folding plates, 3 vols. 8vo. in 5, boards, uncut, £1. 1s Firenze, 1816
- 5127 ——— ANOTHER COPY, 3 vols. 8vo. hf. calf gilt (portrait wanting), £1. 1s
- 5128 ——— A LARGE PAPER COPY, on fine paper, with the portrait, 3 vols. large 8vo. in 5, boards, uncut, £1. 7s 6d

The only collected edition of the author's scientific works. His work, which started a new era in electrical science, includes the discovery of the electric decomposition of water, and the invention of the electric battery, the Voltaic Pile, electrophorus, his condensing electroscopie (proving contact electricity), etc. etc.

'By some writers the name *Galvanic Battery* is given in honour of Galvani; but the honour is certainly Volta's'.—Prof. Silvanus Thompson.

- 5129 ——— ACCOUNT of some DISCOVERIES made by MR. GALVANI, of Bologna, with Experiments and Observations on them [in French], 4to. (pp. 35), sewn, 5s 1793
- 5130 ——— LETTRES sur l'AIR INFLAMMABLE des MARAIS, auxquelles on a ajouté trois Lettres du même Auteur tirées du Journal de Milan, traduites de l'Italien; with copperplate, 8vo. contemporary mottled calf gilt, 8s 6d Strasbourg, 1778
- 5131 **VOSSIUS** [VOS] (Gerard Jan; Canon of Canterbury) De QUATUOR ARTIBUS POPULARIBUS (Grammaticæ, Gymnasticæ, Musicæ, et Graphicæ); de PHILOGIA; de SCIENTIIS MATHEMATICIS, cui Operi subjungitur, CHRONOLOGIA MATHEMATICORUM, 3 vols. cr. 4to. in 1, old calf (very sound copy), 10s Amsteladami, Jo. Blæev, 1650

The third work is interesting for containing a short history of the mathematical sciences. Gerard Vos owed his Canonry to Aop. Land—a characteristic example of the latter's enlightened patronage of learning.

- 5132 **VOSSIUS** (Isaac); Canon of Windsor, son of the above) De LUCIS NATURA et PROPRIETATE; with numerous woodcuts and diagrams, sm. 4to. sewn (rare), 12s 6d

Amstelodami, L. et D. Elsevir, 1662

This work contains the passage in which the author accuses Descartes of plagiarism from Willebrord Snellius for his law of refraction. Vossius also formulates in it a new theory of colours, in which sulphur, said to be contained in every body, plays an important part; and declares that light and heat are merely accidents.

- 5133 ——— De MOTU MARIUM et VENTORUM Liber; with diagrams, cr. 4to. sound copy in old vellum, 10s 6d Hagae-Com., A. Vlacq, 1663
- 5134 ——— ANOTHER COPY, sewn, 9s

'He attributes the tides to the influence of the sun, and describes a 'baroscope' by means of which navigators might with certainty foretell the approach of storms'.—D. N. B.

- 5135 ——— De NILI et aliorum FLUMINUM ORIGINE [cum APPENDICE ad Scriptum de NATURA et PROPRIETATE LUCIS, accedit Epistola ad Amicum de Potentiis quibusdam Mechanicis]; with 2 large folding maps on copper of Abyssinia and the Nile, and numerous woodcuts, sm. 4to. seven (RARE), £1. 1s ibidem, apud eundem, 1666

The author's most valuable scientific work, containing an important doctrine in oceanography: 'Omnia flumina ex collectione aque pluvialis oriri', afterwards elaborated by Mariotte and de la Metherie. Based on it, he attributes the flooding of the Nile to the heavy rainfall of Ethiopia. It also contains a theory of the capillarity of mercury, but erroneously attributes the rising of the sap in plants to the action of capillarity.

- 5136 ——— RESPONSUM ad OBJECTA JOH. DE BRUYN, Professorio Trajectini, et PETRI PETITI, Medici Parisiensis [de LUCE]; with diagrams, sm. 4to. seven, 7s 6d ib., apud eundem, 1663

A defence of his 'de Lucis Natura.'

In spite of his clerical preferment, Isaac Vossius was a freethinker, yet absurdly credulous. Charles II. is said to have remarked of him that he would believe anything if only it were not in the Bible.

- 5137 **VYVYAN** (Thomas Grenfell) ELEMENTARY ANALYTICAL GEOMETRY, revised Ed., with diagrams, post 8vo. cl., 2s (p. 7s 6d) Cambridge, 1870

WAALS (Johannes Diderik v. d.)—v. MOLENBROEK, ante.

- 5138 **WABNER** (Robert) VENTILATION in MINES, trans. by CHARLES SALTER, with 30 folding plates, besides woodcuts, roy. 8vo. cl., 6s 6d (p. 10s 6d nett) 1903

- 5139 **WAGENAER** (Lucas Janssen): The MARINERS MIRROR, wherein may playnly be seen the COURSES, HEIGHTS, DISTANCES, DEPTHS, SOUNDINGS, FLOODS and EBS, RISINGS of Lands, Rocks, Sands and Shoals, with the Marks for th' ENTRINGS of the HARBOUROUGHS, HAVENS and PORTS of the greatest Part of EUROPE: their several Trafficks and Commodities: Together with the RULES and INSTRUMENTS of NAVIGATION. First made & set fourth in diuers exact SEA-CHARTS, by that famous Navigator LUKE WAGENAR of Enchuysen, and now fitted with necessarie ADDITIONS for the use of Englishmen by [SIR] ANTHONY ASHLEY. Heerin also may be understood the EXPLOITS lately atchined by the right Honorable the L. Admiral of England with her Maties Naue, and some former Seruices don by that worthy Knight SE. FRA. DRAKE, with beautifully engraved title by THEODORE DE BRY, 33 fine folding charts on copper by T. DE BRY, A. RYTHER, JOD. HONDIUS, and J. RUTLINGER, and 3 plates (one with moveable compass-card), 2 parts in 1 vol. roy. folio, old white vellum extra, in cardboard-case (binding slightly damaged, leaf of arms, charts 3, 6, 11, 14, 22, half of 20 of part I, and 13 and 14 of part II missing, and engraved title slightly stained, otherwise a REMARKABLY SOUND, CLEAN and LARGE COPY); extremely rare, £18. 18s s. l. aut. t. n. [1588]

This work, which first appeared in the original Dutch in 1584, is of great importance not only from being the first known COLLECTION of CHARTS, but especially for containing, in the above translation, the first ACCOUNT OF THE DEFEAT OF THE SPANISH ARMADA. There is also an account of Sir Francis Drake's expedition to Cadiz in 1587, referred to as 'the former services'.

The translator, the grandfather of the first Earl of Shaftesbury, afterwards accompanied Drake and Sir John Norris on their expedition to Spain in 1589, and in 1596 acted as secretary to the Earl of Essex during the expedition to Cadiz.

The work is exceedingly rare, and the above copy was the only one sold by auction (in 1905, when it fetched £25. 10s) within the last 22 years, and probably for many years before. It belonged to Adml. Sir Sidney Smith, the hero of the Siege of Acre, and was exhibited at the Tudor Exhibition, London, 1859-60.

- 5140 **WAGNER** (Rudolf) HANDBOOK OF CHEMICAL TECHNOLOGY, trans. and edited from the 8th German Edition, with extensive ADDITIONS, by SIR WILLIAM CROOKES, F.R.S., with 336 woodcuts, thick 8vo. cl., 6s 6d (p. £1. 5s) 1872

- 5143 **WADDINGTON** (Robert, *teacher of the mathematics*) PRACTICAL METHOD for FINDING the LONGITUDE and LATITUDE of a Ship at SEA, by OBSERVATIONS of the MOON, with General Rules for computing the same, with all necessary Tables and Explanations, etc. etc., *woodcuts*, cr. 4to. *sewn*, 6s 6d 1763

The author claims to have improved the method of finding the longitude at sea then in use 'by taking the mean of several observed distances for each observation', and by the compilation of a table 'to obtain the variable quantity of the moon's motion by interpolation.'

- 5144 — The SEA OFFICER'S COMPANION, containing NEW TABLES for accurately obtaining the LATITUDE of a Ship at SEA, and the VARIATION of the NEEDLE, by the MOON, also New Tables to obtain the LATITUDE, by Four different Methods, by the SUN, etc. etc., *diagrams*, cr. 4to. *sewn*, 5s *Downing St., Westminster*, 1770

- 5145 **WAHNSCHAFTE** (Felix; *Berlin*) GUIDE to the SCIENTIFIC EXAMINATION of SOILS, comprising select Methods of Mechanical and Chemical Analysis and Physical Investigation, trans. by WILLIAM T. BRANNT, *illustrated*, cr. 8vo. *cl.*, 3s (p. 8s 6d) 1891

- 5146 **WAITE** (Arthur Edward) LIVES of ALCHEMYSTICAL PHILOSOPHERS, based on Materials collected in 1815, and supplemented by recent Researches, with Philosophical Demonstration of the TRUE PRINCIPLES of the MAGNUM OPUS, or Great Work of Alchemical Reconstruction, and some Account of the SPIRITUAL CHEMISTRY, with BIBLIOGRAPHY of Alchemy and Hermetic Philosophy (pp. 30), 8vo. *cl.* (SCARCE), 15s 1888

- 5147 **WAKELY** (Andrew) The MARINER'S COMPASS RECTIFIED, with the Instruments most in Use in Navigation, and Table of Latitudes and Longitudes, much enlarged by J. ATKINSON, with *woodcuts* (one moveable) of *Astronomical Instruments*, etc., 12mo. *old sheep*, 8s 6d

W. Mount, on Tower hill, where you may have all Sorts of Sea-Books, 1741

This copy bears on title the auto. of THOMAS GLASS, M.D. (d. 1786), inventor of a process to prepare *magnesia alba*, and an authority on inoculation for smallpox.

- 5148 — NEW EDITION, revised and carefully corrected, with accurate Tables of the Sun's Declination, adjusted to the New-Style, by WILLIAM MOUNTAINE, F.R.S., *woodcuts*, 12mo. *old calf*, 5s 6d 1759

The editor was 'Teacher of the Mathematics, in Shad-Thames, Southwark. Young Gentlemen Boarded'.

- 5149 **WALCKIERS de ST. AMAND** (—; *de Bruxelles*): RAPPORT fait à l'Académie Royale des Sciences, sur la MACHINE ÉLECTRIQUE nouvellement inventée par M. Walckiers de St. Amand [par M. J. BRISSON, J. B. LE ROY, N. C. COMTE de MILLY, et P. S. DE LAPLACE]; with *coloured folding plate of the machine*, 8vo. (pp. 29), *sewn*, £1. 1s [1784]

VERY RARE, and unknown to Poggendorff, Quéraud, Graesse, and other bibliographers, nor contained in the Ronalds Catalogue. In this machine silk instead of glass is used as the electrifying body, and its sparks are stated to have been from 17 to 19 inches in length—the largest hitherto obtained.

- 5150 **WALDO** (Frank) MODERN METEOROLOGY: the Growth and present Condition of some of its Phases, 112 *illustrations*, post 8vo. *cl.*, 2s 1893

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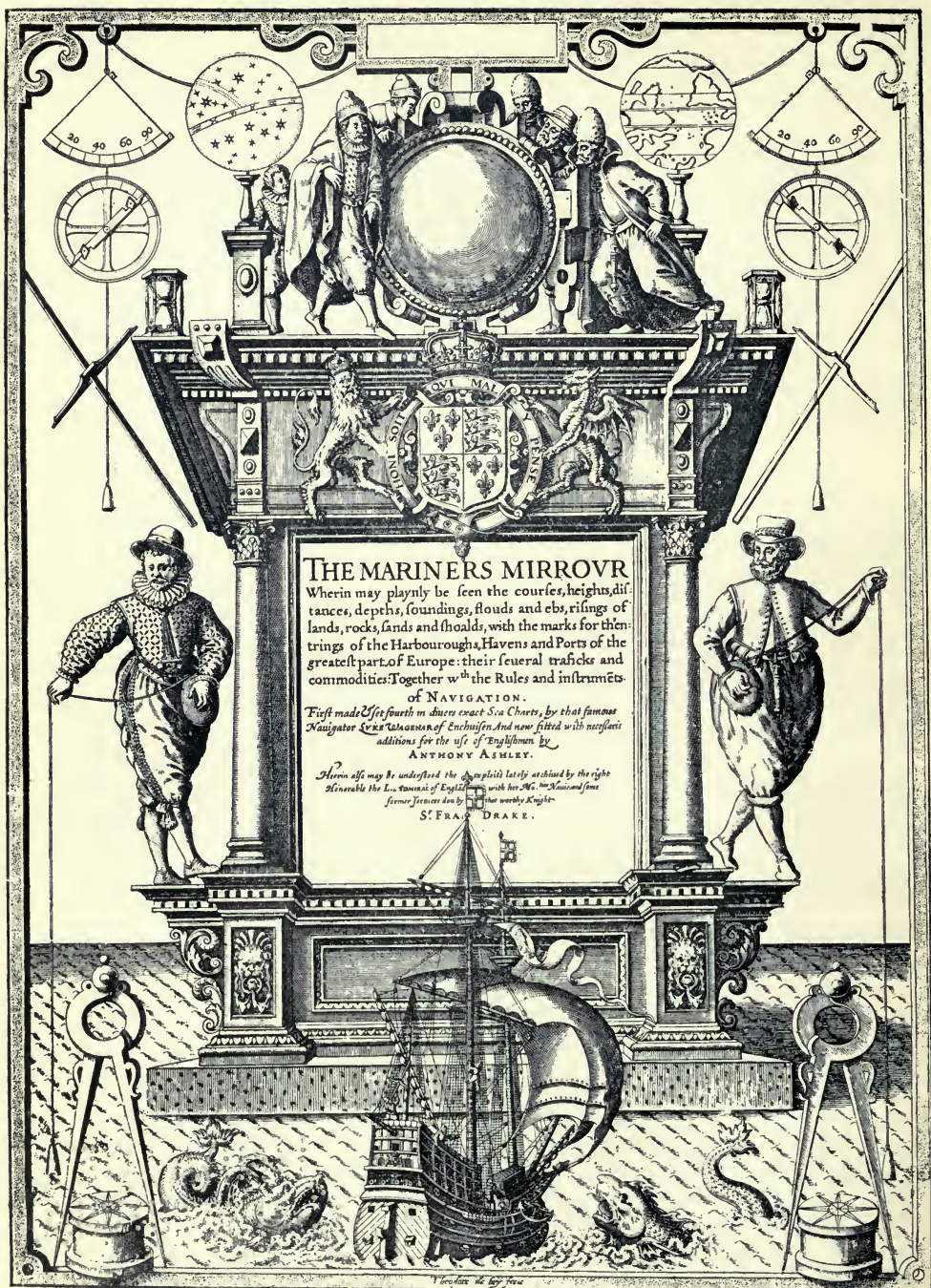
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No. 5139 (page 261).

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— v. ARISTARCHUS, ante.

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98

Archimedes; or, Lib. 1.



Cap. 13. Mechanical Motions.

259

scends near to the loadstone, may be contrived to fall down through some hole in the plane, and so to return unto the place from whence at first it began to move; and being there, the loadstone will again attract it upwards, till coming to this hole it will fall down again: and so the motion shall be perpetual, as may be more easily conceivable by this figure.



S 2 Suppose

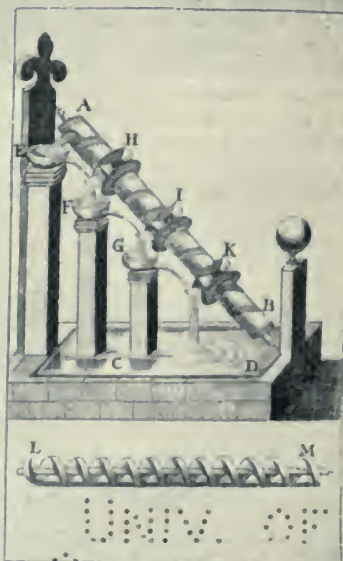
158

Dædalus; or, Lib. 2.



286

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(III.

(IV.)

Nos. 5413-18 (page 275). Specimen illustrations, II. and IV. representing examples of a *perpetuum mobile*, and III. a 'sailing chariot'.

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[67]

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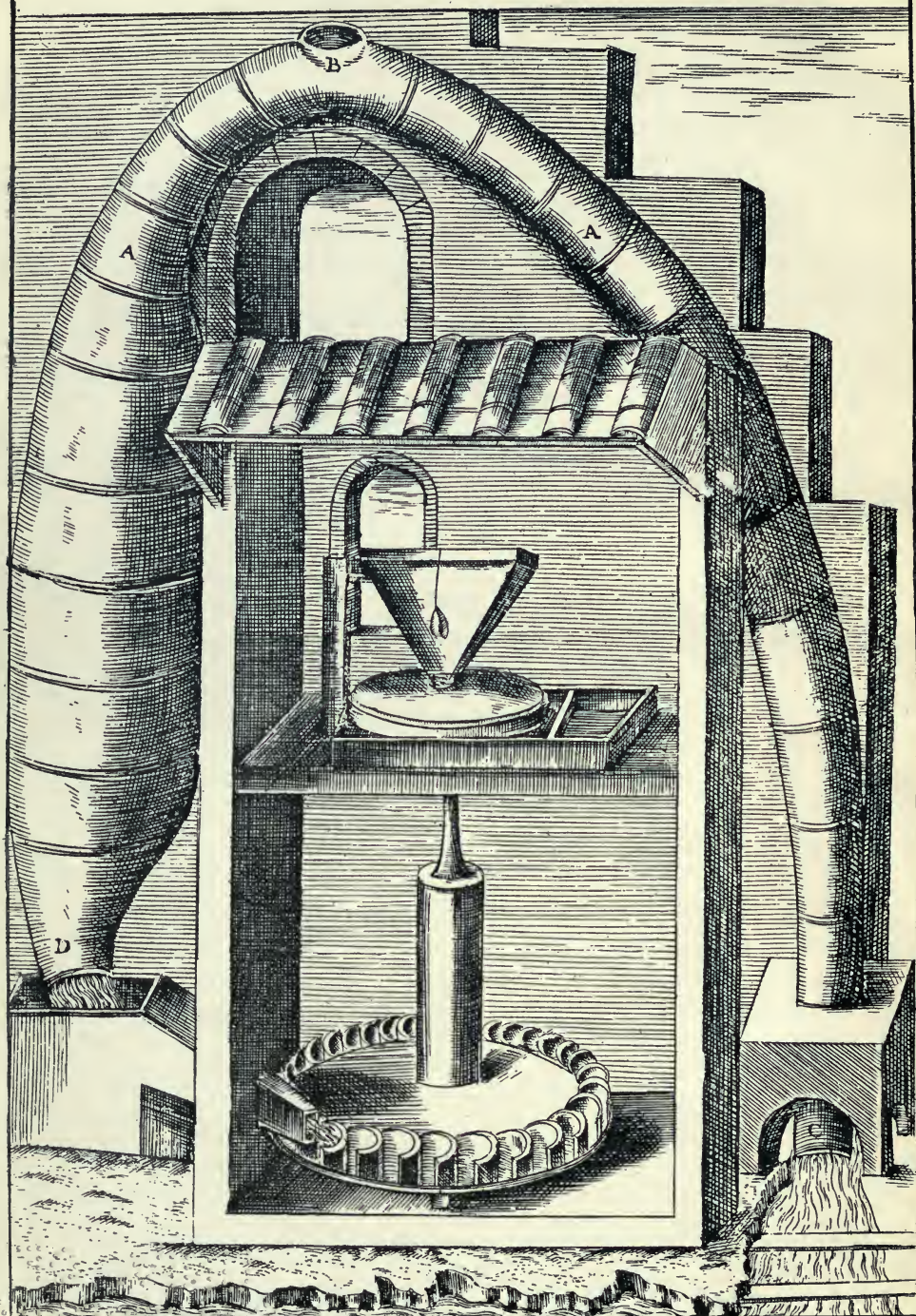
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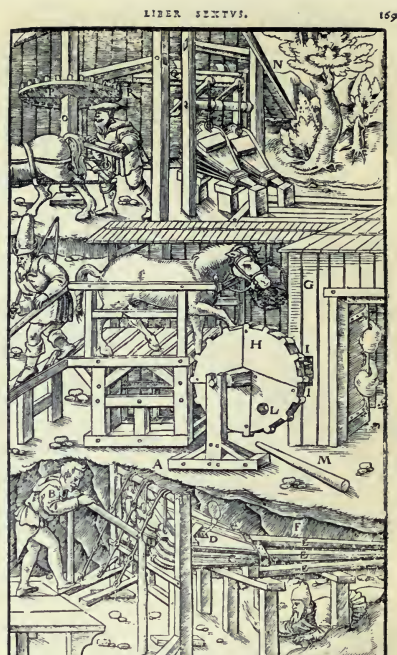
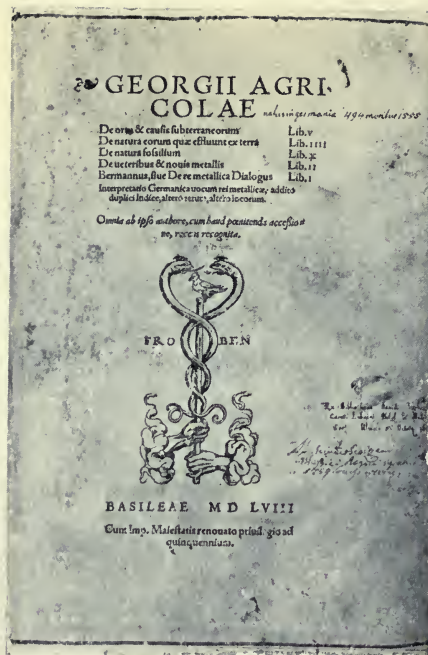
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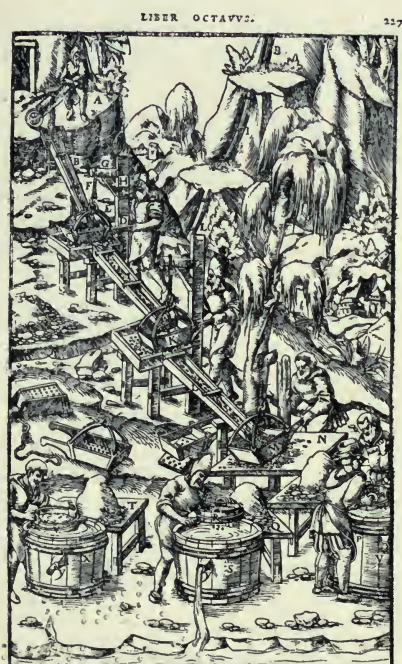


(Page 283).

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Ut autem haec proxima machina grauiorem aerem puri & cuniculi emen-
dare potest, ita etiam uetus ratio euentilandi assidue linctorum uisum, quam
p. explis



Atliquis metallis diues fuerit, utraque arena, sabulum, glacies, saxorum, ex re-
cto excoiorum, ruto uel rastro e tumulo erigit, & batillo in cribri amplius uel
qui cora



Aliqui salem ex falsis, quae feruēt ex terra effluunt, hoc modo conficiunt.
In lacunam scauriginolam imponunt ollas fictiles, inque eas tantam aquam,
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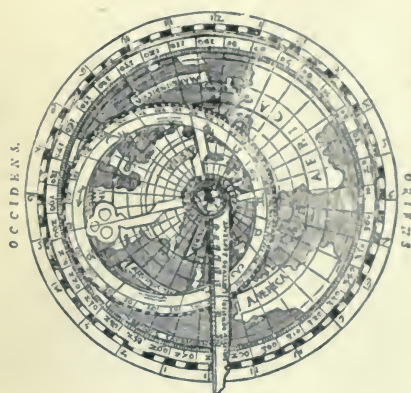
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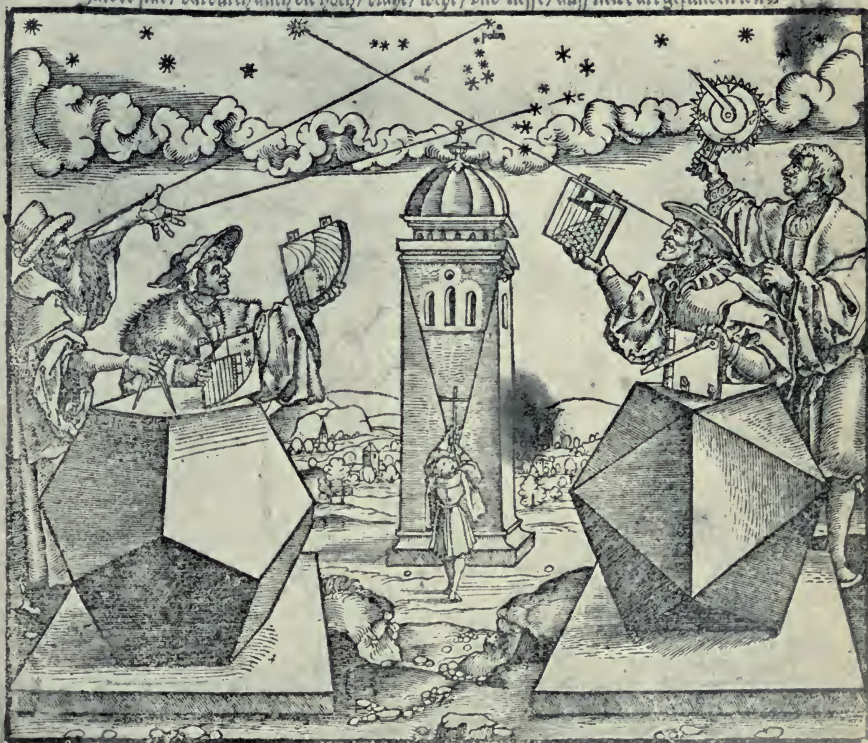
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6044 ——— *ANOTHER COPY, hf. roan (Part IV wanting, first title soiled and holed, and third divisional title wanting), 18s 6d*

The first edition of this curious work is EXCESSIVELY RARE, no copy having happened for sale for the last 20 years, while a copy of the second edition, which is far commoner, fetched £3. 3s in 1903. Some of the experiments described and depicted are very curious, including instructions how to make Weather-glasses; Water-clocks, etc., Experiments of 'drawing water by the Crane, and by Engins, of forcing water by ayre compressed and by Engins, of producing sounds by ayre and water, by evaporation of water by fire, and by Engins, of motions by evaporating water, and by rarifying ayre,' etc. etc. etc. Bearing in mind the early date of publication, its descriptions of engines driven by steam are of considerable interest. There is no copy of this edition in the British Museum, nor is the author noticed in *D. N. B.*

Page 155 describes how to make a FREEZING MIXTURE, which is of special interest, ROBERT BOYLE having been credited with making the first experiments in 1667—thirty-three years after the publication of the above work.

6045 **BATEMAN** (John Frederic La Trobe, F.R.S., P.I.C.E.) *HISTORY and DESCRIPTION of the MANCHESTER WATERWORKS, with 2 fine portraits, and 58 folding plates and maps*, thick 4to. hf. brown calf gilt, cl. sides, g. e. (out of print), 15s (p. £2. 10s in cl.) Manchester, 1884

The account of the splendid series of impounding reservoirs in Longdendale, and their distributing works, carried out by the author continuously during forty years. The work ends with a statement of the still greater Thirlmere scheme, also designed by him, which was carried out under his care till his death in 1889. 'The work deals with many points of interest to the student of hydraulic engineering.'—*D. N. B.*

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6048 ——— *TEXT-BOOK of DESCRIPTIVE MINERALOGY, with 237 woodcuts*, cr. 8vo. cl., 3s (p. 6s) 1884

6049 **BAUERNFEIND** (Carl Max v.; Munich) *ELEMENTE der VERMESSUNGSKUNDE: ein Lehrbuch der praktischen Geometrie*, 7. [neueste] vermehrte Auflage; with 714 illustrations, 2 vols. large 8vo. cl., 12s 6d (p. M. 18 unbound) Stuttgart, 1890

Last edition of this well-known standard work on surveying. The author was the discoverer of two geodetic instruments, the prismatic cross and the prism of distances.

6050 **BAUMÉ** (Antoine, de l'Académie Royale) *CHYMIE EXPERIMENTALE et RAISONNÉE; with fine portrait by St. Aubin after Cochin, and copperplates*, 3 vols. 8vo. FINE COPY in contemporary English calf, 16s 1773

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6051 ——— *DISSERTATION sur l'ÉTHER, dans laquelle on examine les différens Produits du Mélange de l'Esprit de Vin avec les Acides Minéraux; with copperplate and folding table*, 12mo. old calf, with auto. of Richard Watson, F.R.S., Bp. of Llandaff (1737-1816); rare, 12s 6d 1757

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6052 ——— *ÉLÉMENTS de PHARMACIE théorique et pratique, contenant toutes les Opérations fondamentales de cet Art, avec leur Définition et Explication par les Principes de la Chymie, etc. etc. etc.; with 2 copperplates*, thick 8vo. contemporary calf gilt (fine copy), 7s 6d 1762

'Il traça les preceptes de la science dont Lavoisier et Scheele jetèrent les bases, et le premier il établit une fabrique de sel ammoniac. . . . Il inventa des procédés pour dorer les pièces d'horlogerie, teindre les draps de deux couleurs, blanchir la soie jaune sans l'écruer, purifier le salpêtre, et enlever à la fécule du marron d'Inde son principe amer.'—*F. Hofer*.

All the above works belonged to Richard Watson, F.R.S., the absentee Bp. of Llandaff, and bear his Calgarth Park booklabel, and were doubtless used by him when victoriously cramming for his chemistry professorship at Cambridge.

6053 **BAUMERT** (George, Univ. Halle), **Max Eugen Hermann DENNSTEDT**, Hamburg, and **F. VOIGTLÄNDER**: *LEHRBUCH der GERICHTLICHEN CHEMIE*, 2. gänzlich umgearbeitete Auflage; with 151 illustrations (some coloured), 2 vols. roy. 8vo. sewn, 14s (p. M. 21) Braunschweig, 1906-7

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A reply to Bp. Berkeley's charges, and incidentally of great interest as a commentary on the fluxional calculus. It contains some strictures on Leibniz's differential method. Very little is known of the author, who is described as a Dissenting Minister in a MS. note on title. He was unknown to Poggendorff and is not in *D. N. B.*, and is best remembered for his important contributions to the theory of probability.

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ibidem, 1753—Bologna, 1758

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- 6081 ——— ELETTRICISMO ATMOSFERICO, Edizione 2^a, 4to., LARGE PAPER; contemporary Italian vellum gilt (*fine copy*), 10s Bologna, 1758

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- 6086 **BECKMANN** (Johann, *Univ. Göttingen*) HISTORY of INVENTIONS, Discoveries, and Origins trans. by WILLIAM JOHNSTON, 4th Ed., enlarged by WILLIAM FRANCIS, and J. W. GRIFFITH, M.D., with 2 steel portraits, 2 vols. post Svo. cl. (*out of print*), 4s 6d 1846

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It has been claimed that Berthoud was the first to apply compensation to the balance or the watch—the final step in the production of the chronometer; an invention generally ascribed to Harrison. He undoubtedly made the first pocket watch with compensation curb, and moreover invented an escapement in which the balance makes two vibrations in the time that one tooth only of the wheel escapes.
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Nos. 6401-2 (*page 327*).

Portrait of the Hon. Robert Boyle, F.R.S.

Breue cōpendium artis geometrie

a Thoma brouardini ex libris Euclidis Boetij et campani feroptime cōpilatus.
et diuiditur in quatuor tractatus ¶ Prohemium

Geometria est arithmetice

consecutiuā: nam posterioris ordinis est et passiones numero-
rum magnitudinibus deseruiunt. Propter quod euclides
geometrie arithmetica interposuit. Nos autem in alio tra-
ctatu de Arithmetica expediimus ideo conclusiones in per-
mixtas. i. distintas ab arithmetica ponemus geometricas.

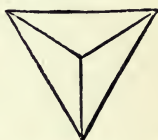
¶ Diuiditur aut geometria in theoricā et practicā Theorica passiones magni-
tudinū inuestigat sillogismo et ratione quēadmodum concludimus q omnis recta li-
nea est apta nata esse basis trianguli equilateri per diffinitionem circuli et per hoc
assumptum q omnem rectā lineam cōtingit esse semidiametrum duorum circuloꝝ.
¶ Practica vero est que mensuras magnitudinū inuestigat arte et instrumento. Et
subdiuiditur in altimetriam et planimetriam et sollimetriā. quarū prima est de mēsu-
ratione altitudinū. secūda de mensuratione planoz. tertia de mensuratione solli-
doꝝ. Instrumenta que huiusmodi mensurationibus deseruiunt sunt quatuor: qbi
lindrum. astroiabulum. armille et torquetū nauicula. Et huiusmodi passiones eas
de magnitudinis demonstramus sunt pene omēs relatiue. vt equalitas et inequalitas
regularitas et irregularitas. cōmensurabilitas et incōmensurabilitas. Etiam vtrū
sales passiones sint res distinte a subiectis solēt fieri altercatiōes sed hoc ad aliū per-
tinet facultatem.

¶ Tractatus primus Capitulū primum de principiis
incomplexis que sunt diffinitiones terminorum.

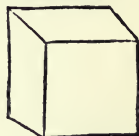
¶ Suppono igitur principia demonstrationis et voco principia demonstra-
tionis diffinitiones et propositiones in mediatas. qm propositiones in me-
diatē nō habent se priores ex qbus demonstrēt. italia em supponi habēt
in qualibet scēcia. Huiusmodi em principioꝝ quodam est dignitas vel maxima. p
positio et ad hoc genus principioꝝ reducuntur propositiones in mediatē in geo-
metria que dicūt cōmunes anīmi conceptiones: siue cōmunes scientie. Aliud est
quod vocatur ab aristotele positio. positio qdā est principii cōplexu et vocat ab
aristotele suppositio in geometria positio. Aliud est tñ extremū. ppositio et vocat
diffinitio. ¶ A diffinitionibus igit ex ordiū est sumēdū q significata terminoz expri-
munt significata autē terminoz in oībus scēcijs p̄supponi habēt. ¶ Punctū vō
voco quod magnitudinis est principii. Magnitudinis autē que vnam habet dimen-
sionē: linea dicitur: que duas superficies que vero. 3. corp⁹ appellatur. Est vero corp⁹
perfectius omni q̄ritate quia post trinam nō est quarta dimensio. figuram vero
cō magnitudinem termināram aut lineis aut superficiebus. Ergo figura omīs aut
est plana aut est solida planas quidem termināt lineę figurās solidas superficies.
Omnia autem figura solida aut est rotunda aut conica. i. angulara. ¶ Conicarum
autem alie regulares et sunt solum. s. f. tetradron. exadron. octo cedron. duo-
decadron. icocedron. quemadmodum declarabo. Alie vero sunt irregulares: vt
sunt corpora serratilia et pyramides laterate et huiusmodi. ¶ Rotundarum quedā
sunt regulares vt spherica. quedam irregulares vt ouales et lenticulares. Planarū
vero figurarū: alia circularis. i. sine angulo. Alia rectilinea et polygonia. i. multoz
angulorum. ¶ Circulus est figura plana vnica linea contenta que circūferentia no-
minatur in cuius medio est punctus a quo omēs lineę ducte ad circūferentiam sunt
equales et hic punctus centrum circuli dicitur. Rectilinearum quedam sunt sim-
plices. Alie egredientiū angulorum Simplicium vero Alia trium anguloꝝ tñ et



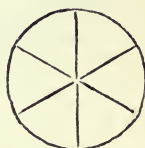
tetradron



exadron



esphera



corpus ouale



corpus lenticulare



Circulus

triangul⁹

qdratū

figura egredientiū anguloꝝ



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mographie, Astronomie, and Geographie, as also the
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Pandandis accipi
endisque muneri
bus ita recte offi-
cia precipue inter
eos q se se magni
faciunt estimant
si liquido ostabit
nec ab hoc aliud
qđ liberalius afferret inuentū: nec
ab illo: nqđ qđ iucundius beniuolē-
tia cōplecteret acceptū. Hec ipse cō-
siderans: attuli non ignaua opum
pōdera quibus ad faciūus nihil in-
structius est: cū habendi sitis incan-
duit: ad meritū nihil vilius cū ea si-
bi victor anim⁹ calcata subiecit: sed
ea que ex grecarij opulētia littera-
rū in romane orationis thesaurum
sūpta cōuerim⁹. Ita enī mei quoq;
operis mihi ratio cōstabit: si que ex
sapientie doctrinis elici: sapientis-
simi iudicio cōprobent. Vides igit
vt tam magni laboris effectus tuuz
tantū expectet examē: nec in aures
p̄dire publicas nisi doctę sentētie a
stipulatione nitat. In quo nihil mi-
ri videri debet: cū id opus qđ sapiē-
tię inuenta persequit: non auctoris
sz alieno incūbit arbitrio. Suis q̄p-
pe instrumentis res rationis expen-
ditur: cū iudiciū cogit subire pru-
dentis. Sed huic munusculo: nō ea-
dem que ceteris imminent artibus
munimenta cōstituo. Neque enī

fere vlla sic cūctis absoluta partib⁹
nullius indiga suis tantū est sciētia
nixa p̄sidijs: vt nō ceteraz quoq;
artiū adiumenta desideret. Nā in effi-
giandis marinoze statuis: alius ex-
cidendę molis labor est: alia formā
de imaginis ratio: nec eiūsdē artifi-
cis manus politi operis nitor expe-
ctat. At picturę manibus tabule cō-
misse fabrozum. cere rustica obser-
uatione decerptę: colorū fuci merca-
tozū solertia perquisiti: lintea operto-
sis elaborata tertrinis: multiplicem
materiā prestant. Nōne idem quo-
que belloz visitur instrumentis: Pic-
spicula sagittis exacuit: illi validus
thorax nigra gemit incide. At ali-
us: crudi ymbonis tegmina pprij la-
boz orbi infigenda mercatur. tam
multę artibus ars vna perficit. At
nostri laboris absolutio lōge ad fa-
cilioz currit euentuz. Tu enī solus
manuz supremo operi impones: in
quo nihil de decernentiū necesse est
laborare cōsensu. Quālibet enī hoc
iudiciū multis artibus probe excul-
tū vno tamē cumulat examine. Ex-
periare igitur licet quantū nobis in
hoc studio longis tractus ocij la-
bor adiecerit. An rerū subtilium fu-
gas exercitate mentis velocitas cō-
phendat. vtz ieiūne macies oratio-
nis ad ea que sunt caligantibus im-
pedita sententijs expedienda suffici-
at. Qua in re mihi alieni quoque iu-
dicij lucra querunt. Cum tu vtrariū
que peritissimus litteraz: possis gra-
te orationis expertibus quantuz de
nobis iudicare audeant: sola tantū
pnunciatione prescribere. At nō al-

6290 **BOERHAAVE** (Herman, M.D.; F.R.S.) *ELEMENTA CHEMIE*: Historia, Artis Theoria, et Operationes Chemicæ; with fine folding portrait by Wandelaar (inserted), and 17 copperplates, 2 vols. 4to. old calf, 12s 6d
Lugduni Bat., 1732

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6291 — **NEW METHOD OF CHEMISTRY**, including the History, Theory, and Practice of the Art, trans., with Notes and Appendix, shewing the Necessity and Utility of ENLARGING the BOUNDS of CHEMISTRY, by PETER SHAW, M.D., 2nd Ed., with 25 copperplates, 2 vols. 4to. in 1, old calf (RARE), £1. 1s

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6292 **BOETHIUS** (Anicius Manlius Torquatus Severinus) *OPERA*, quæ extant, OMNIA . . . infinitis locis . . . emendavimus, adiuti præsidio vet. MSS. exempli., & auxilio doctissimorum virorum: inter quos . . . HENRICHUS LORITUS Glareanus ARITHMETICAM & MUSICAM demonstrationibus & figuris auctiorem redditam suo pristino nitore restituit . . . et MARTIANUS ROTA opus de tota differendi ratione, hoc est, organum, Dialecticæ & Rhetoricæ studiosis necessarium, illustravit. Et huius auctoris VITAM . . . descripsit; with printer's device on title and last l., and numerous diagrams, thick folio, boards (some ll. browned as usual, otherwise a large and sound copy); RARE, £2. 2s
Basileæ, apud Henrichum Petrum, 1546

'The teaching of early mediæval mathematics was mainly founded on the geometry and arithmetic of Boethius. His *Geometry* consists of the enunciations (only) of the first book of Euclid, and of a few selected propositions in the third and fourth books, but with numerous practical applications to finding areas, etc. He adds an appendix with proofs of the first three propositions to shew that the enunciations may be relied on. His *Arithmetic* is founded on that of Nicomachus. A textbook on music by him was in use at Oxford within the present [XIXth] century.'—W. W. R. Ball.

6293 — **ARITHMETICA**. [F. 2a:] Incipiunt duo libri de Arithmetica | ea antiq[ue] manilij [sic] seuerini Boetij vi- | ri clarissimi ꝛ illustrissimi ex cõsulis: | ordinarij: patricij: ad patricium sim | machum, editio princeps; handsomely printed in gothic letter, with numerous fine woodcut initials and diagrams, sm. 4to. parchment (FINE COPY); extremely rare, £12. 12s
[col.] Finit arithmetica Boetij bene re | uisa ac fideli studio emendata Im | pressa per Erhardũ ratdolt viri so- | lertissimi eximia iñdustria ꝛ mira im- | primẽdi arte: qua nuq[ue] venetiis nũc | AUGUSTE excellet [sic] nominatissimus. | Anno dñi. M.cccc.lxxxvij. Men- sis maij die vigesima.

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6295 — **De ARITHMETICA** ad Patritium Simmachum libri II; **De MUSICA** lib. V; **De GEOMETRIA** lib. II; **De PHILOSOPHIE CONSOLATIONE** lib. V; **De SCHOLARIÛ DISCIPLINA** lib. I [cum Commentariis in Consolationem et Disciplinam S. THOMÆ Aq.]; printed in gothic letter in double columns, with signatures, numerous woodcut diagrams, initials, etc., 2 vols. folio in 1, hf. vellum extra (first 2 ll. guarded, otherwise a FINE COPY); VERY RARE, £6. 6s

[col. of v. I:] Venetiis, per Jo. et Greg. de Gregorijs Fratres, 1499, die 8. Julii.

[col. of v. II:] Venetiis, per Otinum de la Luna Papiensem, die xix. Julii, 1499

Any work of Boethius should have especial interest to Englishmen from the remembrance of King Alfred's translation of the 'Consolation of Philosophy'.

6296 **BOHUN** (Ralph; New Coll., Oxon.) **DISCOURSE** concerning the ORIGINE and PROPERTIES of WIND, with Historical Account of Hurricanes, and other Tempestuous Winds, with 3 engravings on copper, 12mo. contemporary calf, with bookplate of George Stanhope, Dean of Canterbury, and Boyle Lecturer (1660-1728); RARE, £1. 1s
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The work is unknown to Lowndes, nor is the author noticed in D. N. B.

6298 **BOILEAU** (Lt.-Col. I. T., R.E.) **COLLECTION** of TABLES, ASTRONOMICAL, METEOROLOGICAL, and MAGNETICAL, also, for Determining the Altitudes of Mountains; Comparison of French and English Weights and Measures, etc., computed in the Office of the H. E. I. Co.'s Magnetic Observatory, Simla, 4to. hf. calf, 5s 6d
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1896

Containing an account of the author's magneto-optical method for the measurement of permeability.

- 6304 **BOIS-AYMÉ** (— du) LETTRE à Mr. Lancret (au Sujet des ANGLES de première et seconde Flexion de Développées de COURBES à DOUBLE COURBURE); with *folding copperplate*, 4to. (pp. 13), *sewn (rare)*, 5s [1800]
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- This important work was the first which laid the foundation of a knowledge of imaginary quantities. 'A systematic exposition of the knowledge then current on the subject. He discusses radicals, real and imaginary. He also treats the theory of equations, and shows that in the irreducible case of a cubic equation the roots are all real; and he remarks that the problem to trisect a given angle is the same as that of the solution of a cubic equation . . . His work is noticeable for his use of symbols which indicate an approach to index notation. Following in the steps of Stifel [*v. No.* 4605, ante], he introduced a symbol, $\sqrt{}$ for the unknown quantity, $\sqrt{}$ for its square, $\sqrt[3]{}$ for its cube, etc. etc. etc.—*W. W. R. Ball*.
- 'This celebrated work is of extraordinary rarity, and although Prof. de Morgan inserts Bombelli's name in his index, on the authority of Peacock, he seems to have been unable to find a copy.'—*Libri Catalogue*.
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- 6340 ——— MÉTHODE d'EXTRAIRE les MÉTAUX PARFAITS des MINÉRAIS et autres SUBSTANCES MÉTALLIQUES par le MERCURE; with 21 copperplates (mostly folding), 4to. old *hf. calf (rare)*, 15s *ibidem*, 1788

According to Quérard copies of the above work were also issued without the illustrations. An inferior edition was published in 1787 in Bernie.

- 6341 ——— NEW PROCESS OF AMALGAMATION OF GOLD AND SILVER ORES, and other Metallic Mixtures, as introduced in Hungary and Bohemia, trans. by RUDOLF ERIC RASPE, with SUPPLEMENT, or Comparative View of the former Method of Melting and Refining, and Account of its LATEST IMPROVEMENTS, and of the QUICKSILVER TRADE, with 22 copperplates (many folding) of metallurgical plant, 4to. *fine copy in hf. calf gilt* (RARE), £1. 10s 1791

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'For the Right Reverend Lord Bishop of Landaff with respectful thanks for the honour of His Subscription, from His Lordship's most ob. h. Servt R. E. Raspe.'—*Inscr. on flyleaf*.

The translation of the foregoing work, with an appendix not contained in the original. It is of special interest on account of its translator, a German professor at Cassel, who fled to England to avoid punishment for theft. He was elected a Fellow of the Royal Society, but struck off the rolls on his antecedents becoming known. He was the author of the original 'Baron Munchausen', and a swindler of a most interesting type. 'In the autumn of 1791 Raspe went on a tour in the extreme North of Scotland, where he professed to discover signs of vast mineral wealth. To sustain his reputation as a mineralogist he brought out, in 1791, a translation of Baron Born's new process of amalgamation. By plausible manoeuvres he inveigled a local magnate, Sir John Sinclair of Ulbster, into disbursing large sums for preliminary operations. When the time came for the fruition of his schemes, Raspe disappeared. The incident was crystallised in a tradition which Sir Walter Scott utilised in *The Antiquary* [where Raspe figures in the character of *Dousterswell*].—*D. N. B.* See Nos. 3302-3, *ante*.

6343 **BORDIER-MARCET (J. A., successeur d'Ami Argand, inventeur de lampes)** NOTIONS SUR L'ARÉOMÈTRE CENTIGRADE, L'ALAMBIC AMBULANT, et le PLASTRON NAUTIQUE; *with plate (stained)*, 8vo. (pp. 48), *sewn*, 5s 1812

THE FIRST BOOK OF ARITHMETIC:

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FIRST EDITION OF THE FIRST PRINTED TREATISE ON ARITHMETIC, AND OF EXCESSIVE RARITY. No copy has happened for sale at auction within the last 22 years, and probably not for many years before. The Libri copy, sold in 1861, is the last sale-record that can be traced.

It consists of one unnumbered leaf with verses, beginning 'Chi de arte matematiche ha piacere, Che tengon di certaça el primo grado . . .', 116 numbered ll., and one unnumbered l. of Table, or signatures a—o in eights and p in six. On the reverse of the last l. are verses in Italian, from which it can be gathered that the edition was printed by Erhard Ratdolt of Augsburg. The above copy is, save for the few defects mentioned, in a most desirable condition, and uniform in binding with the following copy of the second edition.

6345 ——— **SECONDA EDIZIONE.** [F. 2a:] Qui comēza la nobel opera de | arithmeticha ne laqual setracta | tutte cosse amercantia pertinen- | te facta z compilata per Piero | borgi da Vienesia; *printed in gothic letter, with numerous woodcut initials*, sm. 4to. *newly and finely bound in polished brown Levant morocco extra, rough g. e., by W. PRATT, uniform with the above (an exceptionally fine and large copy)*, £21.

[col.:] *Stampito in Venetia per zouāne de Hall' 1498*

6346 ——— **ANOTHER COPY, boards (slight hole in first 2 and last 4 ll., also some ll. water-stained, or slightly soiled, otherwise a SOUND AND VERY LARGE COPY)**, £14. 14s

This second edition is also of great rarity, although to a less degree than the first. It consists of 96 unnumbered ll., or signatures a—m in eights, the first l. having on obverse the verses contained in the first edition. The table and verses at end contained in the first edition are however absent in this as well as in all other editions.

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[col.:] *Impressa in Venetia per Zuane Baptista Sessa. 1501. a di. 10. Decembrio. With MS. index in an old hand.*

6348 ——— **ANOTHER COPY, boards (title guarded, but a SOUND AND CLEAN COPY)**, £6. 6s

6349 ——— **ANOTHER COPY, sewn (f. 8 in fs., and a number of blank corners gnawed; also water-stained, but a very tall copy)**, £3. 10s

This edition, the first printed by Sessa, was unknown to Graesse, who mentions however all the other editions. It consists of 96 numbered ll., or signatures A—M in eights.

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[col.:] *Stampata in Venetia per Jacomo pentio | anno dñi. 1509. adi. 5. de novembre.*

This edition, containing 6 pp. of additions, consists of 100 numbered ll. (the last 4 being misnumbered 91-4), or signatures A—M in eights, and N in four.

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[col.:] *Stampata Venetia per Jacomo pentio da Lecho ad instā | tia de Marchio Sessa & Piero di Rauani compagni | anno dñi. 1517. adi. 25. de zugno.*

The collation of the above edition corresponds exactly with that of the foregoing. The above copy contains a MS. index in an old hand.

'Tutte le edizioni di questa operetta, ma in particolare le prime, sono ricercatissime dai bibliografi.'—Riccardi.

'Toutes les éditions de cet Abacho sont difficiles à trouver, et depuis quelques années on les recherche beaucoup.'—Brunet.

The author begins by saying that there are plenty of sufficiently good masters, and not less abundance of most excellent authors. His arrangement of the five acts of arithmetic is strange; they are numeration, multiplication, partition, summation, and subtraction. He uses the word *million*, and his numeration goes to millions of millions of millions. He then proceeds to multiplication, and forms a table of the nine multiples of 1, 2 . . . 10, with those or 12, 10, 20, 24, 32, and 36. He then points out how to prove processes by casting out sevens and nines; in doing which he shows how to divide by 7, and uses the sum of the digits to find the remainder 9. Then follow multiplications done each in one line, even when the multiplier has three or four figures. . . . Division is said at the head of a chapter, to be done in three ways; but only two are given: that *per cholona*, where the whole is done in one line, and that *per batelo*. Subtraction is then explained; and after some *arithmetica*, the rules for fractions (which are expressed in the same way as now) are introduced. The rule of three (*regola del tre*) is given, and a large number of money applications.—Prof. de Morgan.

The first two editions are by most bibliographers mistakenly quoted as a different work.

The work was reprinted in 1528, 1540, 1550, 1561, and 1567.

- 6352 **BORGNI** (Giuseppe Antonio; *Univ. Pavia*) TRAITÉ COMPLET de MÉCANIQUE appliquée aux ARTS, contenant l'Exposition Méthodique des Théories et des Expériences les plus utiles pour diriger le Choix, l'Invention, la Construction et l'Emploi de toutes les Espèces de MACHINES; with 249 *fine folding plates on copper*, 10 vols. 4to. *contemporary hf. calf (nice copy)*, £2. 10s 1818-23
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- 6354 **BORNE** (Giacomo, *prete francese*) PRINCIPI RAGIONATI di ARITMETICA, colle loro Applieazioni nei principali Usi delle Proporzioni; corredati di un TRATTATO teorico-pratico dei LOGARITMI, con TAVOLA di questi Numeri, 8vo. *boards*, 10s 6d *Pesaro*, 1795
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- 6355 [**BORRO** (Girolamo, *d'Arezzo*)] DIALOGO del FLUSSO e REFLUSSO del MARE d'ALFERO TALASCOPICO, con un Ragionamento di Telifilo Filogenio della Perfezione delle Donne; prima edizione; with *woodcut titles*, 2 vols. sm. 4to. in 1, *boards*, £1. 8s 6d *Lucca, per il Busdragho*, 1561
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It contains many interesting observations and axioms, which were completed three years afterwards by Newton in his 'Optics' (v. Nos. 3249-50, ante). The work also contains many recipes for mixing colours. Pp. 389-423 contain a 'Short Account of some Observations about a Diamond that shines in the Dark, with a Treatise upon the score of the Affinity betwixt Light and Colours', with a separate titlepage.

6416 ——— EXPERIMENTS and CONSIDERATIONS about the POROSITY of BODIES, in Two Essays, **first edition**, 12mo. *sound tall copy in contemporary calf gilt (RARE)*, 15s Sam. Smith, 1684

6417 [——] A FREE ENQUIRY into the VULGARLY RECEIV'D NOTION of NATURE; made in an Essay, address'd to a Friend, by R. B., Fellow of the Royal Society, **first edition**, sm. 8vo. *sewn (rare)*, 10s John Taylor, 1682

Containing much of the Baco-Cartesian philosophy propagated by the author.

6418 ——— THE GENERAL HISTORY of the AIR, **first edition**, sm. 4to. *fine copy in old calf (VERY RARE)*, £1. 5s Awnsham and John Churchill, 1692

Published posthumously, and containing the author's final experiments on the subject, chiefly METEOROLOGICAL.

6419 ——— HYDROSTATICAL PARADOXES, made out by NEW EXPERIMENTS (for the most part PHYSICAL and Easie), **first edition**, with 3 *folding plates on copper*, 12mo. *sound copy in contemporary calf (RARE)*, £1. 1s Oxford, R. Davis, 1666

6420 ——— ANOTHER COPY, *old calf, newly rebacked*, 18s 6d

* Enforcing, by numerous and striking experiments, the laws of fluid equilibrium'.—D. N. B. The author also demonstrates the impossibility of the 'fuga vacui.'

6421 ——— MEDICINA HYDROSTATICA; or HYDROSTATICKS apply'd to the MATERIA MEDICA, shewing how by the WEIGHT that divers Bodies, us'd in Physick, have in Water; one may discover whether they be Genuine or Adulterate. To which is subjoyn'd, a Previous Hydrostatical Way of Estimating Ores, **first edition**, with *front. on copper of testing-scales*, 12mo. *contemporary sheep (very rare)*, £1. 1s Samuel Smith, 1690

Containing investigations on specific gravity. Bound up at end is: 'Catalogue of the Philosophical Books and Tracts, written by the Hon. Robert Boyle, Esq.; together with the Order or Time wherein each of them hath been Publish'd respectively; with a Catalogue of his Theological Books' (pp. 14).

6422 ——— THE ORIGINE of FORMES and QUALITIES (according to the CORPUSCULAR PHILOSOPHY), illustrat'd by Considerations and Experiments (written formerly by way of Notes upon an Essay about Nitre), **first edition**, 12mo. *old calf (RARE)*, £1. 5s Oxford, H. Hall, 1666

6423 ——— SECOND EDITION, augmented by a DISCOURSE of SUBORDINATE FORMES, 8vo. *old calf*, 15s ib., a. e., 1667

* Expounding his principles of a 'mechanical philosophy.' Founded on the old atomic hypothesis, these accord in the main with the views of many recent physicists. They postulate one universal kind of matter, admit in the construction of the visible world only moving atoms, and derive diversity of substance from their various modes of grouping and manner of movement'.—D. N. B.

Qui comenza la nobel opera de
arithmethica ne la qual se tracia
tute cosse amercantia pertinente
facta ⁊ compilata p Piero bozgi
da venesia



En che numero di maistri assai sufficienti
si ritruovano ⁊ nō meno copia de eccellē
tissimi auctori: p li quali chiara ⁊ diffusamē
te lique ogni arithmetico precepto
⁊ regula pur inuente dimeno ricōpiando
quāto amice signori mercadanti venesia
ni sia comodo oltra il naturale suo di su
ma memoria ⁊ prudentia ornato chiaro
auere apreso di fe alcuno memoriale
quāto più sia possibile cōpendioso ho in
finito al tutto nō chome cosa noua ma
cū quāto più facilitā narrare si possi. Com
ponere ouero più pōho ordinare la pēte

opa in la quale particularmēte si cōtingera tutti modi oportuni a la in
trodutione ne qualis gionereto dedito ala marchadantia. E prima
dimostrando che chōsia sia numero: equal siano li numeri necessarij al
proposito loro: ⁊ etiam el modo di pceder nel. s. an arithmeticali
chomo ⁊ numerar: multiplicar: parir: sumar: ⁊ sotrar azionendo a
sili interregio: ⁊ puerer de la regola de tre ciascheduno
ordine: ⁊ in fine molti ⁊ diuersissimi de ration achadēti molte volte a
mercadanti: laqual pero nō essendo quale merita li piqui acceptar. La qual
chōsia faciendo ⁊ auendo. tra la dita mia opera ouumg: achadēte
peruēgnirmi a lemano altra opera di quella più notabile cū
piu balde ⁊ de lo vato ordine rediricta ale loro signorie. Le qual per non te
diar in longo parlare vignerō edichiarationi dela dita opera

S. b. S. U.

Quanto latua memoria et alto ingegno
raglia ne l'arithmetica hai mostrato
nel presente volume compilato
perro bozgo dote veneto degno.
Questo e apreso de tutti vn chiaro segno
che nō hai perso il tuo tempo passato
bauendo enoi eposteri donato
desi predaro et tanto vile pegno.
Ma l'impresso de augusta Errardo esperto
di lopera presente stampatore
degno e non di mediocre laude certo
E betanto a queste scientie a messo amore
che ha cum sua nobile arte arui apeto
quanto babi el suo interculo gran valore

E se pur qualche errore
fuisse nele figure ritrouato
agran difficulta sia imputato.

'Nela inclita citade venetia a corni. 2.
augusto. 1484. fu imposto fine ala pre
sente opera.

Qui comēza la nobel opera de
arithmeticha ne laqual se tracia
tute cosse amercantia pertinen
te facta ⁊ compilata per Piero
bozgi da Venesia.



En che numero di maistri assai sufficienti si
ritruovano ⁊ non meno copia de eccellē
tissimi auctori: per liquali chiara ⁊ diffusamē
te lique ogni arithmetico precepto ⁊ regula pur inuē
te dimeno ricōpiando quāto amice signori
mercadanti venesiani sia comodo oltra il
naturale suo di suma memoria ⁊ prudentia orna
to chiaro auere apreso di fe alcuno memoriale quāto più
possibile cōpendioso ho instituto al tutto not chome cosa
noua ma cum quāto più facilitā narrare si possi. Comporre
ouero più pōho ordinare la pēte opera in la quale particu
larmentēte si cōtingera tutti modi oportuni a la introdutione de
qualumg: gionereto dedito ala marchadantia. E prima di
mostrando che chōsia sia numero: equal siano li numeri neces
sarij al proposito loro: ⁊ etiam el modo di pceder nel. s. an
arithmeticali chomo ⁊ numerar: multiplicar: parir: sumar:
⁊ sotrar azionendo a quelli tute regule o puerer ⁊ c. Preterea de
la regola od tre ciascheduno ordine: ⁊ in fine molti ⁊ diuer
si modi de ration achadēti molte volte a mercadanti: laqual
pero non essendo quale merita li loro signorie quelle pague il
lopera infini: ma la pauptia volunta mia bona ⁊ inclinabilissima
ad ogni vno bonore ⁊ comodita li piqui acceptar. La qual eo
fa faciendo ⁊ auendo grata la dita mia opera ognūg: achadēte
peruēgnirmi a lemano altra opera di quella più notabile cum
piu balde ⁊ de lo vato ordine rediricta ale loro signorie. Le
qual per nō rediar in longo parlare vignerō adichiarationi dela
dita opera.

duc⁴ 5 3 9
duc⁵ 14 7 7
duc⁶ 20
duc⁷ 5 3 9
duc⁸ 15 7 7
duc⁹ 21 7 7
duc¹⁰ 7 7 7
duc¹¹ 7 7 7
duc¹² 12 7 7
duc¹³ 18 7 7
duc¹⁴ 7 7 7
duc¹⁵ 7 7 7

pimo chompagno chō puchari. 11 7 7 che de il terzo chō
pagno clara duc⁴ 21 7 7 pigliame el terzo che e duc⁴ 7 7
e diti al secondo chompagno che a duc⁴ 12 7 7 et el vigne
ra ben ad auer duc⁴ 20 ⁊ pceppe el terzo chō pagno duc⁴ al p
mo ⁊ al secondo bene. ⁊ in voliti ducari ⁊ auer duc⁴ 20 su
na duc⁴ 5 7 7 che a il pmo chō pagno 12 7 7 che a il dū
do clara duc⁴ 15 7 7 pigliame el quarto che e duc⁴ 4 7 7
e diti al terzo chō pagno che a duc⁴ 15 7 7 et el vigne
ra ben ad auer duc⁴ 20 ⁊ in questo modo epoua a la rason clara il
duc⁴ 5 7 7 ⁊ duc⁴ 15 7 7
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duc⁴ 18 7 7
duc⁴ 7 7 7
duc⁴ 20

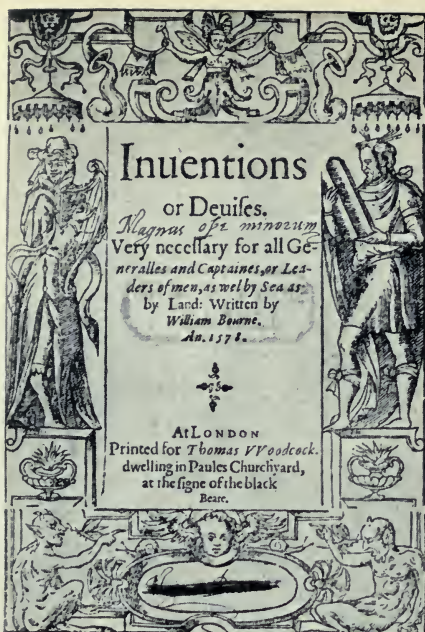
Et volere a tre quati infuete rasoni si poua addere gressio le
pcedite laqual forebbe tropo puzoso copiare ad esse ⁊ pō
o scriuissim: a dō che omo obrevo ogni mode ⁊ regula de p
ceder in tute rason a marchadanti agermente: per loqu il cosa
faro fine a questa mia opera ne laqual li per lapie di pmo che
nō credo come per elter no gliosa alla impue vi hūe alcuno erro
re tencio: certo qualis gionereto a cōli de gnera supire
non impudā: ad alcuno no mi creduo ad altra excusatione
ma solo pūgo acui mano per regnato la pēte opera ad
pugar li o ogni per lo suo seruente a la letura modita ⁊ seruā
gioni ⁊ ⁊ c. inclinatissimo.

Lauo b. o.

C. Stampato in Venetia per iohanni de Pauli. 1484.

Nos. 6344-6 (page 324).

The first printed book on arithmetic.



and strange Deuises.

61

the forme of certaine lightes in the night, as this, you haue consulted or talked together, that if that they doo shew you so many lightes, and standing on such a fashion or forme, that it signifieth such a thing is done by the enemy, or else that you must doo something, and in such a forme, that it signifieth such a thing, &c. accordingly vnto the tokens that you haue agreed vpon, &c. And furthermore, you may diuise by the formes of lightes in the night, to cause your friends to write a letter by, and so by that meanes to declare your whole minde vnto your friendes: as thus, you haue agreed vpon them, that if that there be so many lightes, and stand after such a fashion, that it signifieth to write *A*, and if so many lightes, and in such a forme, then to write *B*, and so forth vnto the numbers of the letters, according vnto the forme & number of the lightes so shewed, and then at the ende of euery word so written; to shew but one light for a stop, for the ende of a word; &c. vntill that you haue finished. And furthermore, in like manner by lightes in the night is the most speediest thing to haue any thing knowne, that may be to giue warning vnto any countrey to bee in a readinesse vpon the suddaine, as we here in England, doo prepare for the vse thereof, by the firing of the beacons, &c. And furthermore, it is vsed vnto a further practise vnderneath the king of Spaynes dominions, vpon the fourth coast called *Andaluzia*, within the Straights of *Iubertare* the sea beinge called *Mara Mediterraneum*, as there is small towers all alongst the coast that they doo keepe watch in, and at the ende of euery league or in lesse distance, there is one of those small towers: and it is so ordeyned amongst them, that they can tell whether that any of the Turkes, or Moores galleys hath been on the coast, and what number of Gallies that there bee of them, and whether that they are landed or beeh ashore, and whether that they be gone or remainyng still by the very forme and the

-13

13

numbers

and strange Deuises.

15

to me, and there it may rest at your pleasure: and then when that you would haue it swimme, then with the Skrewes winde out the things on both the sides, and that will thrust the water out againe at the holes, and so it will rise and come vp about the water, and swimme as it did before, &c.

The 19. Deuise.

AND furthermore, you may make a Boate to goe without oares or Sayle, by the placing of certaine wheelles on the outside of the Boate, in that sort, that the armes of the wheelles may goe into the water, and so turning the wheelles by some prouision, and so the wheelles shall make the Boate to goe.

The 20. Deuise.

AND also, they make a water Mill in a Boate, for when that it rideth at an Anker, the tyde or streame will turne the wheelles with great force, and these Milles are vsed in France, &c.

The 21. Deuise.

AND in like manner, they may make an engine to know the way or going of a Ship, for to knowe how fast or softly that any Ship goeth, which is very necessarie for all them that goeth of long voyages, in a number of causes. The instrument is to be made in this manner. There must be made a little small Boate, and then there must be placed a wheele in the Boate, that the armes thereof must goe in the water, and so as the Ship passeth or goeth in the Sea, so the way of the Ship doth turne the wheele by the armes that goeth in the water of the Sea, and from that

96

Rare Inuentions

that all the reflected beames or shadowes doo rest vpon one place, and so by a great number of glasses to multiply the heate, that in the ende it will be set on fire and burne: but you must be sure that all the reflected beames or shadowes doo rest in one place, or else it will be vnto no purpose, and at a great distance you shall haue much to doe, to deerne or see it, &c. Wherefore you must haue the ayde of Geometry, to vse it according vnto the distance, and to place the glasses in a frame, which I doo call at this time for breuities.

41

The 110. Deuise.

FOR to see any small thing a great distance of from you, it requirerh the ayde of two glasses, and one glasse must be made of purpose, and it may be made in such sort, that you may see a small thing a great distance of, as this, to reade a letter that is set open neare a quarter of a myle from you, and also to see a man foure or fife miles from you, or to view a Towne or Castell, or to see any window or such like thing fixe or seauen myles from you. And to declare what manner of glasses that these must bee, the one glasse that must be made of purpose, is like the small burning glasses of that kinde of glasse, and must bee round, and set in a frame as those bee, but that it must be made very large, of a foote, or 14. or 16. inches broad, and the broader the better: and the propertie of this glasse, is this, if that you doo behold any thing throw the glasse, then your eye being neare vnto it, it sheweth it selfe according vnto the thing, but as you doo goe backwardes, the thing sheweth bigger and bigger, vntill that the thing shall seeme of a monstrous bignesse: but if that you doo goe to farre backwarden it will deere and be small, & turne the fashion downewardes. But now to vse this glasse, to see a small thing a great distance, then doo this, the thing or place

No. 6391 (page 327).

The forerunner of the Marquess of Worcester's 'Century of Inventions.'

- 6424 **BOYLE (Hon. Robert; F.R.S.; founder of the Boyle Lectures)** NEW EXPERIMENTS PHYSICO-MECHANICAL, touching the SPRING of the AIR, and its Effects (made, for the most part, in a NEW PNEUMATICAL ENGINE), SECOND EDITION, whereunto is added a DEFENCE of the Author's Explication of the Experiments, against the OBJECTIONS of FRANCISCUS LINUS, and THOMAS HOBBS, with 2 copperplates (one folding), sm. 4to. *fine copy in old calf* (VERY RARE), £1. 15s

Oxford, H. Hall, 1662

Containing the author's invention of an improved air-pump ('machina Boyleana'), 'presenting all the essential qualities of the modern machine. By a multitude of experiments performed with it, Boyle vividly illustrated the effects (at that time very imperfectly recognised) of the elasticity, compressibility, and weight of the air; investigated its function in respiration, combustion, and conveyance of sound, and exploded the obscure notion of a *fuga vacui*.'—*Agassiz* & M. Clerke.

The above edition is of special importance, as it first contains what is now known as Boyle's Law. 'The Defence against Linus' contained experimental proof of the proportional relation between elasticity and pressure, still known as Boyle's Law. This approximately true principle, although loosely demonstrated, was at once generalised and accepted, and was confirmed by MARIOTTE [under whose name it is generally known on the Continent] in 1676.—*Eadem*.

BISHOP BURNET'S COPY:

- 6425 ——— CONTINUATION OF NEW EXPERIMENTS, PHYSICO-MECHANICAL, touching the SPRING and WEIGHT of the AIR, and their Effects. The I. Part, with a short DISCOURSE of the ATMOSPHERES of CONSISTENT BODIES, first edition, with 8 fine plates on copper, sm. 4to. *contemporary calf* (a sound and large copy); RARE, with armorial bookplate of GILBERT BURNET as Bp. of Sarum, £1. 5s

Specially valuable for giving a description of his air-pump as improved by ROBERT HOOKE, F.R.S., the author's assistant—spoken of as the 'second Engine' in this work.

- 6426 ——— The SCEPTICAL CHYMIST: or CHYMICO-PHYSICAL DOUBTS and PARADOXES, touching the Spagyrist's Principles commonly call'd Hypostatical, as they are wont to be Propos'd and Defended by the Generality of Alchemists, whereunto is premis'd Part of another Discourse relating to the same Subject, first edition, sm. Svo. *old sheep* (VERY RARE), with bookplate of John Sherveen, M.D., sold

J. Cadwell for J. Crooke, 1661

One of the most important, as well as by far the rarest, of all the author's writings, especially in the above first edition. It was reprinted in 1680. The above copy has a duplicate title, reading: 'The Sceptical Chymist: or Chymico-Physical Doubts and Paradoxes, touching the Experiments whereby Vulgar Spagyristes are wont to Endeavour to Evince their Salt, Sulphur, and Mercury, to be the true Principles of Things, Printed for J. Crooke, 1661.'

'In the "Sceptical Chymist" he virtually demolished, together with the peripatetic doctrine of four elements, the Spagyristic doctrine of the *tria prima*, tentatively substituting the principles of a 'mechanical philosophy', expounded in detail in his 'Origin of Formes and Qualities' [q. v. *supra*].—D. N. B.

'In his *Sceptical Chymist* he criticises the Aristotelian and the alchemistic elements, which were still accepted by many of the iatro-chemical age. He enunciated the axiom that only what can be demonstrated to be the undecomposable constituents of bodies are to be regarded as elements. . . . With a far-seeing glance he looked forward to the discovery of a much greater number of elements than was at that time assumed, at the same time contending that many of the substances then held to be elementary were not really so. . . . Boyle was the first to state with perfect clearness that a chemical compound results from the combination of two constituents, and that it possesses properties totally different from those of either of its constituents alone, thus enabling him to draw a sharp distinction between mixtures and chemical compounds.'—*Prof. E. v. Meyer*.

- 6427 ——— SOME CONSIDERATIONS touching the USEFULNESSE of EXPERIMENTAL NATURAL PHILOSOPHY, propos'd in a Familiar Discourse to a Friend, by way of Invitation to the Study of it, 2nd Ed., 4to. *original calf*, 10s 6d

Containing an interesting preface by ROBERT SHARROCK, Archdn. of Winchester.

'I scruple not to acknowledge there are things that incline me to suspect, that some in the world . . . may have Arcana, to which most of the Processes I reserve may prove little more than Trifles'.—*Author's preface*. This passage is interesting as first avowing his belief in alchemy.

- 6428 ——— TRACTS containing New Experiments, touching the RELATION betwixt FLAME and AIR. And about EXPLOSIONS. An HYDROSTATICAL DISCOURSE occasion'd by some Objections of DR. HENRY MORE against some Explications of New Experiments made by the Author, with an Hydrostatical Letter, dilucidating an Experiment about a Way of Weighing Water in Water. New Experiments of the POSITIVE and RELATIVE LEVITY of BODIES under Water, of the Air's Spring on Bodies under Water, and about the Differing Pressure of Heavy Solids and Fluids, first edition, large 12mo. *old calf*, or, *old sheep* (RARE), 16s 6d

R. Davis, 1672

Containing the author's important investigations on specific gravity.

It includes chapters 'Of the Difficulty of producing and preserving Flame without Air', 'Of the Propagation of Actual Flame in Vacuo Boyliano', 'New Experiments about the Relation betwixt Air and the Flamma Vitalis of Animals', 'Of the Pressure of the Air's Spring on Bodies under Water', etc. etc.

- 6429 ——— TRACTS: containing I. SUSPICIONS about some HIDDEN QUALITIES of the AIR; with Appendix touching CELESTIAL MAGNETS, and some other Particulars. II. ANIMADVERSIONS upon MR. HOBBS'S Problemata de Vacuo. III. DISCOURSE of the CAUSE of ATTRACTION by SUCTION, first edition, 12mo. *old calf*, newly rebaked (RARE), 17s 6d

M. Pitt, 1674

Containing also a chapter on the 'Preservation of Bodies in Vacuo Boyliano'.

- 6430 [——] TRACTS consisting of OBSERVATIONS about the SALTNESSE of the SEA: ACCOUNT of the STATICAL HYGROSCOPE and its Uses; the FORCE of the AIR'S MOISTURE; the Natural and Preternatural State of Bodies, and a Sceptical Dialogue about the POSITIVE or PRIVATIVE NATURE of COLD, with some Experiments, by a MEMBER of the ROYAL SOCIETY, first edition, sm. 8vo. *old sheep*, newly rebaked (RARE), 17s 6d

E. Fletcher, 1674

- 6431 [——] SECOND EDITION, sm. 8vo. *original sheep*, 12s 6d

S. Smith, 1690

Describing some of the author's most interesting investigations, and exploding the Aristotelian doctrine then held that the saltiness of the sea was found only on its surface. He also explains the origin of the salts in the sea, shows how to make sea water drinkable by distillation and freezing, and ascertains its density.

- 6432 BRACKENBURY (Charles Ernest, A.M.I.C.E.) BRITISH PROGRESS in GAS WORKS' PLANT and MACHINERY, with 113 illustrations (including 5 plates), roy. 8vo. boards, 3s 6d (p. 6s net) 1905

- 6433 BRADLEY (Thomas) PRACTICAL GEOMETRY, LINEAR PERSPECTIVE, and PROJECTION, including Isometrical Perspective, Projections of the Sphere, and the Projection of Shadows, with Description of the Principal Instruments used, etc., 8 plates and numerous woodcuts, 8vo. cl., 3s 6d

S. D. U. K. [1834]

- 6435 **BOYS** (Charles Vernon, F.R.S.) SOAP-BUBBLES, and the Forces which mould them, *with front.*, and 68 woodcuts, and folding plate of thaumatrope, cr. 8vo. cl., 1s 6d 1890
- 6436 — **BULLES de SAVON**: Conférences sur la Capillarité, trad. par CHARLES EDWARD GUILLAUME; avec de nouvelles Notes de l'Auteur et du Traducteur; *with front.*, folding plate, and 60 woodcuts, cr. 8vo. cl., 2s 1892
- 6437 **BRADDOCK** (John, Deputy Commissary of Ordnance) MEMOIR on GUNPOWDER, discussing the PRINCIPLES both of its MANUFACTURE and PROOF, *with front.*, 8vo. hf. cl., 5s 1832
- 6438 **BRADWARDINE** (Thomas, 53rd Abp. of Canterbury; 'doctor profundus'): GEOMETRIA SPECULATIVA THOME BRAUARDINI recoligens omnes conclusiones geometricas studentibus artium ϕ philosophiæ ARISTOTELIS valde necessaria simul cum quodam tractatu de QUADRATURA [sic] CIRCULI nouiter edito [a PETRO SANCHEZ CIRUELO]; editio princeps; handsomely printed in gothic letter, with fine woodcut with printer's device on title, and numerous geometrical figures on margins; the initials painted in red and blue, 4to. limp white vellum, with leather tiers (A FINE AND VERY LARGE COPY); very rare, £8. 8s [col.:] . . . operaq; Guidonis mercatoris diligētissime impressæ parisiis in cāpo gaillardii. Anno dñi. 1495. die 20. maij

The most important of the author's writings, and of excessive rarity, especially in the above first edition. It consists of signatures A—C in sixes, and D in four, or 22 ll. in all, without foliation or catchwords, the last leaf being blank. Hain (3712) had seen no copy of the work and was unable to give a collation, which is supplied in Dr. Copinger's 'Supplement.' It is Mr. Proctor's no. 7997. The above copy is, save for some slight pin-holes, in an EXCEPTIONALLY CHOICE condition, with large margins.

It treats *inter alia* of star polygons, and, according to M. Chasles, contains 'une théorie nouvelle qui doit faire honneur au XIV^e Siècle,' as well as 'discussions on the infinite and infinitesimal—subjects never since lost sight of.'—Prof. Cajori. The treatise on circle-squaring is, according to Prof. de Morgan, probably by the editor. A full account of the work may be found in Prof. Cantor's 'Vorlesungen über Geschichte der Mathematik,' v. II (1892), pp. 102-9.

The late Dean Stephens, in his interesting article in *D. N. B.*, gives 1530 as the first edition of this work, but really mentions it under the title 'De Quadratura Circuli,' 1495. Abp. Bradwardine was as eminent as a man and a theologian as he was as a mathematician. He was a Sussex man of Chichester, and an early student at Merton College, where he wrote his celebrated 'De Causa Dei contra Pelagium,' which became the standard work in Augustinian theology, and caused him to be referred to in the 'Nun's Priest's Tale.' He held the unpleasant office of Confessor to Edward III., and gave Christian exhortation to the troops on the eve of the Battle of Crecy. He was consecrated to the Archbishopric at Avignon in 1349, and at once hastened to his diocese although the Black Death was raging; was seized with it on the morrow of his arrival in Lambeth, and died two days after.

- 6439 **BRAHE** (Tyge, latine Tycho) ASTRONOMIÆ INSTAURATÆ MECHANICA; *with portrait within armorial border, and very numerous large engravings on wood and copper of astronomical instruments*, folio, boards (browned as usual, otherwise a SOUND AND LARGE COPY); VERY RARE, £3. 3s

Noriberge, Levinus Hulsius, 1602

This is Tycho Brahe's chief work, now of great rarity, and very valuable for containing descriptions and illustrations of the astronomical instruments used by him at Uraniborg Observatory, which for the first time made possible approximately accurate measurements, and thus gave the great impetus to the study of practical astronomy, which as its first-fruit produced the genius of Kepler. Many of the instruments were of the author's own invention, e.g. the mural quadrant (quadrans maximus), while nearly all others received great improvements from him.

- 6440 — **OPERA OMNIA**, sive ASTRONOMIÆ INSTAURATÆ PROGYNASMATA, in II Partes distributa, quorum I. de RESTITUTIONE MOTUUM SOLIS et LUNÆ, Stellarumque Inerrantium tractat. II. de MUNDI ÆTHEREI Recentioribus Phænomenis [sic] agit; *with plate, and numerous diagrams*, 4to. old Italian vellum (browned, but sound copy), with Prof. Riccardi's booklabel (RARE), £2. 2s

Francfurti, Godofredus Schönwetterus, 1648

Containing observations on the comet of 1577, the right ascension and declination of 100 stars, and lunar and solar theories, but above all noteworthy for explaining the peculiar planetary system invented by the author, which for some time found many followers, and among them Sir Francis Bacon. It also includes a reprint of the author's 'De Nova Stella' (q. v. infra).

- 6441 — **HISTORIA CÆLESTIS** [complectens Observationes Astronomicas varias ad Historiam Cœlestem spectantes, cum Commentariis LUCH BARRETTI [ALBERTI CURTII] et Paralipomenis ad Historiam Cœlestem, ex Recensione et MSS. GUIL. SCHIKARDI]; *with fine full-size portrait and front. representing the Emperors Rudolph II., Ferdinand II. and III., and Leopold I., with celestial and terrestrial globes, both by P. KILIAN, plate of views, and very numerous woodcuts, including large ones of Astronomical Instruments*, 2 vols. folio, old Italian vellum (some ll. stained, otherwise a VERY FINE COPY); RARE, £3. 10s [col.:] Augustæ Vind., Simon Utzschneider, 1666

FIRST EDITION of this rare work, containing the author's astronomical observations between 1582 and 1601, at the Observatory of Uraniborg Castle, and including his Catalogue of Fixed Stars, pronounced to be 'more perfect than any that had previously appeared.' The copious and interesting preface contains beautiful woodcuts of the astronomical instruments in use at the time.

He made the first table of refractions, and discovered the variation and annual equation of the moon, the inequalities of the motion of the nodes, and the inclination or the lunar orbit, and rejected the trepidation of the precession, which had hitherto injuriously affected all tables. He also made some interesting cometary investigations.

- 6442 — **METEOROLOGISCKE DAGBOG**, holdt paa Uraniborg for Aarene 1582-97, udgiven af det Kgl. Danske Videnskabernes Selskab; *with diagrams*, large 8vo. boards, uncut, 6s 6d Kjöbenhavn, 1876

With appendixes 'Sammendrag af Vejr-Jagttagelserne i Tyge Brahes Meteorologiske Dagbog,' 'Résumé d'un Journal Météorologique par Tycho Brahe,' both by POUL LA COUR, and Index.

'The principal interest attached to it arises from the short notes about the arrival or departure of Tycho, his pupils or visitors.'—Dr. Dreyer. It is moreover valuable as testifying to the uniformity of the climate with that now prevailing.

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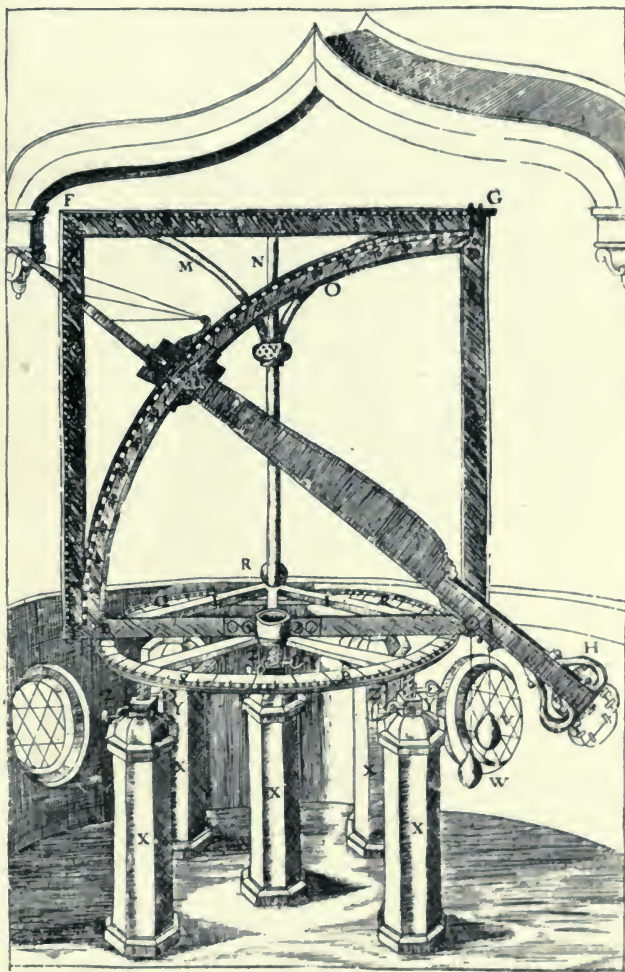
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trugi et arcis Vranienburg in Insula Hellesponti Daniæ Hu-
cinnæ Fundatoris, instrumentorumq; Astronomicorum in eadẽm
dispositorum inventaris et structoris. Aetatis suæ anno 40.
Anno Dñi. 1586 compil.

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No. 6441 (page 330).

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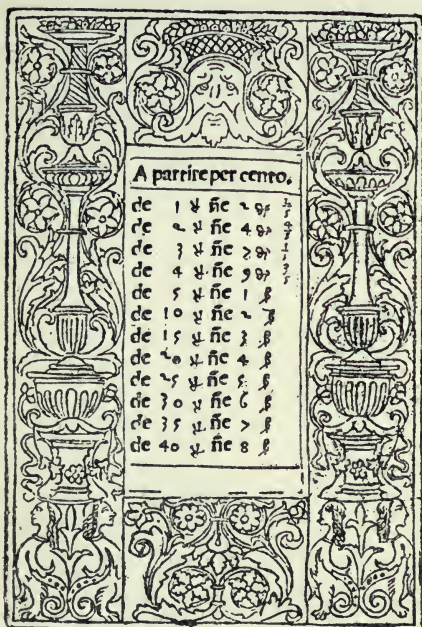


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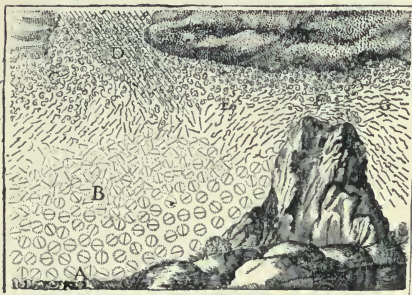
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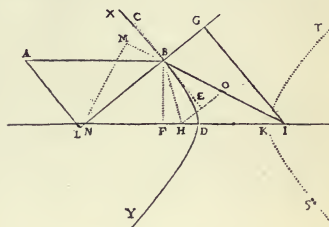
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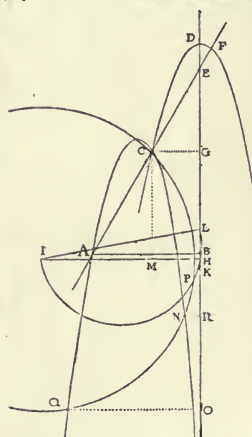
DISCOURS HUITIESME. 109

sont semblables. Enfin les deux angles EBH & EBI estans esgaus par la construction, & HO, qui est parallele a LG, couppant comme elle CE a angles droits, les deux triangles BEH & BEO sont entierement esgaus. Et ainsi BH la baze de l'un estant esgale a BO la baze de l'autre, il reste OI pour la difference qui est entre BH & BI, laquelle nous avons dit estre esgale a DK. Sibienque AL est a IG, comme DK est a HI. D'où il suit que mettant tousiours entre les lignes DK & HI la proportion qui peut servir a mesurer les refra-



ctions du verre ou autre matiere qu'on veut employer, ainsi que nous avons fait pour tracer les Ellipses, excepté que DK ne peut estre icy que la plus courte, au lieu qu'elle ne pouvoit estre auparavant que la plus longue: Si on trace vne portion d'hyperbole tant grande qu'on voudra comme DB, & que de B on face descendre a angles droits sur K D la ligne droite BQ, les deux lignes DB, & QB tournant au tour de l'aissieu

LA GEOMETRIE.



Fais ayant fait a ligne BK indefiniment longue des deux costés, & du point B ayant tiré la perpendiculaire AB, dont la longueur soit $\frac{1}{2}p$, il faut dans vn plan separé descrire vne Parabole, comme CDF dont le costé droit principal soit

$$\sqrt{\frac{e}{v_0} + q - \frac{1}{2}pp}$$

que ie nommeray n pour abregé. Apres cela il faut poser le plan dans

lequel est cete Parabole sur celuy ou sont les lignes AB & BK, en forte que son aissieu DE se rencontre iustement au dessus de la ligne droite BK: Et ayant pris la partie de cet aissieu, qui est entre les points E & D, esgale à $\frac{2v_0}{pn}$, il faut appliquer sur ce point E vne longue regle, en telle façon qu'estant ainsi appliquée sur le point A du plan de dessous, elle demeure tousiours jointe a ces deux points, pendant qu'on haussera ou baissera la Parabole.

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- 7128 — RAPPORT HISTORIQUE sur les PROGRÈS des SCIENCES NATURELLES depuis 1789, et sur leur État actuel, nouvelle Édition, 8vo. sewn, 3s 6d 1828

7130 CUTHBERT (Ross) NEW THEORY of the TIDES, 8vo. (pp. 13), *sewn (scarce)*, 6s 6d*reprint of Quebec, 1811*

According to the author the phenomenon of tides is wholly unconnected with the attraction of the moon, and caused solely by the heat of the sun, which he supposes to produce 'periodical swellings' of the ocean, followed by 'reactions'. The above pamphlet was not budgetted by Prof. de Morgan.

7131 CYCLONE MEMOIRS, published by J. ELIOT, Parts II—V: Bay of Bengal, Aug. 21-28, 1888. — Sept. 13-20, and Oct. 27-31, 1888, and Arabian Sea, Nov. 6-9, 1888. Arabian Sea: Nature and Course of Storms, and Catalogue and History of Cyclones, 1648-1889. Bay of Bengal and Arabian Sea, Nov. 1891, *with numerous maps and charts*, 4 vols. roy. 8vo. boards, 7s (p. Rs. 14) Calcutta, 1890-3

7132 CZAPSKI (Siegfried) THEORIE der OPTISCHEN INSTRUMENTE nach ABBE; *with 94 woodcuts*, roy. 8vo. cl., 4s 6d (p. M. 10) Breslau, 1893

7133 CZÖGLER (A.) DIMENSIONEN und ABSOLUTE MAASSE der PHYSIKALISCHEN GRÖSSEN, post 8vo. *sewn*, 2s 6d Leipzig, 1889

7134 DAGUERRE (Louis Jacques Mendé, *peintre, inventeur du Diorama*) HISTORIQUE et DESCRIPTION des PROCÉDÉS du DAGUERRÉOTYPE et du DIORAMA, première édition; *with 6 plates illustrating the Apparatus, etc. used*, 8vo. original wrapper (cover mounted, and small blank corner of title torn off, otherwise a SOUND COPY); EXCESSIVELY SCARCE, £3. 13s 6d Susse frères, 1839

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7138 DALLMEYER (John Henry; F.R.A.S.) On the CHOICE and USE of PHOTOGRAPHIC LENSES, 8vo. (pp. 12), *sewn*, 1s 1876

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The work was intended as a preface to a larger one on the same subject, which had never been printed. The advertisement and preface of the above are reprinted in Beloe's *Anecdotes*, v. II, and in *Chetham Miscellanies*, v. I. On p. 38 is a paragraph, 'Of what importance it is, to be Lords of the Seas', ending with 'God graunt us the verity and frute, of this Sea Souerainty, every way: and that with all Opportunity.'

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The author was the son of a Huguenot pastor at La Rochelle, and was brought to England on the Revocation of the Edict of Nantes hid in a tub. After receiving Holy Orders he became chaplain to 'the Princely Chandos' and vicar of Little Stanmore, Middlesex, where Handel played the organ which still exists there.

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The above works were termed by Prof. Cantor 'precursors of that science which about 150 years afterwards received the name of descriptive geometry.'

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It was unknown to Poggendorff, Brunet, Ebert, or Graesse, the last of whom only mentions the author's 'Aula Subterranea', 1684.
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- 7606 —: MATHEMATICAL RECREATIONS, or a Collection of sundrie Problèmes, extracted out of the Ancient and Modern Philosophers, as secrets in nature, and experiments in Arithmetick, Géométrie, Cosmographie, Horolographie, Astronomie, Navigation, Musick, Opticks, Architecture, Statick, Mechanicks, Chymistrie, Waterworkes, Fireworks, etc. Not vulgarly made manifest untill this time . . . Most of which were written first in Greeke and Latine, lately compiled in French, by HENRY VAN ETTEN Gent. And now delivered in the English tongue, with the Examinations, Corrections, and Augmentations [by WILLIAM OUGHTRED], with curiously engraved title, and numerous engravings on copper, 12mo. sewn, with AUTO. of THOMAS TANNER (1674-1735), Bp. of St. Asaph, antiquary, on title (engraved title and a few headlines slightly shorn, but a FINE COPY); VERY RARE, £3. 10s

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Among the more interesting problems are, in addition to the one mentioned above by M. Libri: 'How to make an instrument that helpes to heare' (the speaking tube, the invention of which is ascribed to Sir Samuel Morland in 1671), 'a lampe which goeth not out, though one carries it in one's pocket', several magnetical problems, including 'a secreete in the Magnes, for discovering things farre remote', 'of the Thermometer', 'how to weigh the lightnesse of the ayre', 'of longitude and latitude', 'how to make a clocke with one wheel', 'how to make a perpetual motion', etc. etc. etc.

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The text of this edition is based on that of the first Greek edition of 1533.

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THE TRANSLATION is of great interest as having been made by an Englishman, ÆTHELHARD OF ADELARD OF BATH, either from the Greek original, or, more probably, from an Arabic version. Æthelhard was a great traveller as well as one of the greatest philosophical writers of the Thirteenth Century, 'and seems to have passed through Spain, the North of Africa, Greece, and Asia Minor. He was one of those Englishmen who lived for a time in the Norman Kingdom of Sicily, and is known to have visited Syracuse and Salerno. That he knew Greek is almost certain; but it has not been determined whether the translation of Euclid (undoubtedly executed by him, though often ascribed to Campanus of Novara, with whose comments it was published at Venice in 1482 [supra]) was made from an Arabic version or from the original' (Professor Adamson). On either supposition the instance of English mediæval scholarship is a striking one, and Æthelhard is one more disproof of the theory of the blank ignorance and obscurantism of the Middle Ages with which the youth of England is still regaled by the timberheaded textbook-writer of British popular Protestantism.

- 7620 ——— **EDITIO LATINA SECUNDA** [incipit:] PRECLARISSIMUS LIBER ELEMENTORUM EUCLIDIS perspicacissimi: in artem Geometrie incipit quāfoelicissime; printed in Roman type, with woodcut border surrounding first page, ornamental initials, and geometrical designs throughout in margins, folio, boards (two water-stains on first l., otherwise a remarkably fine and tall copy, measuring 12½ × 8½ inches), VERY RARE, £8. 8s
[col.] Vincentiæ per Leonarduz de Basilea & Gulielmū de Papiā Socios. Anno salutis MCCCCXXXII. Vigesimo Calē. Jūñ. [1491]

This second edition is even rarer than the first, the two being the only editions of Euclid published during the Fifteenth Century.

- 7621 ——— **EUCLIDIS megarensis** . . . OPA a CAMPANO interprete fidissimo tralata, que cum antea librorum detectanda culpa mēdis fedissimis adeo deformia ēent; ut vix Euclidem ipsum agnosceremus. LUCAS PACIOLUS [DE BURGO] . . . iudicio castigatissimo deteret: emendavit Figuras CXXIX que in aliis codicibus inverse z deformate erant: ad rectam symmetriam conuinavit: z multas necessarias addidit eundē quoq; plurimis locis intellectu difficilem cōmentariolis . . . aperuit: enarravit: illustravit, etc. etc.; handsomely printed (the title in red and black), partly in gothic letter; with numerous diagrams on margins, folio, contemporary limp vellum (back of binding damaged, and slightly waterstained, otherwise a fine and tall copy, measuring 11½ × 7½ inches); excessively rare, £6. 6s

[col.] Venetiis, Paganinus de Paganinis de Brixia, 1509

THE RAREST OF ALL THE EDITIONS OF EUCLID, and moreover a beautiful specimen of early typography.

This is perhaps the scarcest of all the editions of Euclid, as is but too well known to mathematicians, who covet its possession. The version attributed to Campanus, but now known to have been made by Adelard of Bath, appears here to great advantage, owing to the important emendations and explanations of the celebrated Luca Pacioli di Burgo, the author of the *Summa de Arithmetica* [v. Nos. 3429-32, ante]. Pacioli was the intimate friend of Leonardo da Vinci, at whose instigation he appears to have published this work, as is apparent from the dedicatory letter of the editor himself to Francesco Soderini, Cardinal of Volterra, to whom, as well for his own favour as for the patronage of the great Florentine family of which the prelate was a member, he gratefully renders acknowledgment'.—*Libri Catalogue*.

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Cantabrigiæ, Guil. Nealand, 1655—Joa. Field, 1657

The above copy belonged to WILLIAM MUSGRAVE, M.D., F.R.S., Secretary of the Royal Society, and author of 'Antiquitates Britanno-Belgiæ' (1655?1721), who has added his auto. 'Wm. Musgrave, Novi Coll.; Socius' on flyleaf, and numerous MS. additions.

- 7623 ——— **EDITIO NOVA**, prioribus Mendis typographicis nunc demum purgati; with diagrams, 2 v.: LECTIO ISAACI BARROW, in qua THEOREMATA ARCHIMEDIS de Sphæra et Cylindro, per METHODUM INADVISIBILUM investigata, ac breviter demonstrata exhibentur; with diagrams—3 vols. 12mo. in 1, contemporary calf (sound copies); rare, 12s 6d
Londini, J. Redmayne, 1678

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Parisiis, in officina Henrici Stephani [1516]

AN EXTREMELY INTERESTING COPY, BEARING THE autograph 'Thomas More' on the first leaf, and thus very interesting as showing the wide range of Sir Thomas More's reading. The above copy also has the XVth century inscription 'Ex dono Arthuri Browne in Musica professoris' on a parchment label attached by iron band and bosses to the binding.

- **ELEMENTORUM GEOMETRICORUM Libri XV**, cum Expositione THEONIS, etc., adiecta sunt PHENOMENA, CATOPTRICA, et OPTICA, etc. etc., *Basileæ, Joh. Hervagius, 1537—v. VITELLO, post.*
- 7626 — **ELEMENTORUM GEOMETRICORUM Libri XV**, cum Expositione THEONIS in priores XIII à BARTHOLOMÆO ZAMBERTO Veneto Latinitate donata, CAMPANI in omnes, et HYPsiclis Alexandrini in duos postremos: adiecta sunt PHENOMENA, CATOPTRICA et OPTICA, deinde Protheoria MARINI et DATA, postremum, Opusculum de LEVI et PONDEROSO, hactenus non visum; *with numerous woodcut initials and diagrams, folio, hf. cl. (some ll. browned, otherwise a large and sound copy, but wanting as usual 3 ll. as below), 17s 6d* — *Basileæ, Joh. Hervagius, 1558*

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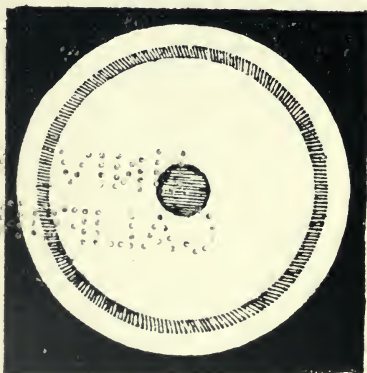
DE MARTIS, ET IOVIS OBSERVAT.] 405
OBSERVATIO I. MARTIS.

Anno 1636.

Martis figura perfectè sphaerica distinctè, atque clarè cõspici-
ebatur. Item in medio atrum habebat conum instar
nigerrimæ pilulae.

Martis circulus discolor, sed in concava parte igneus; de-
prehendebatur.

Sole excepto, reliquis alijs Planetis, semper Mars can-
dentiõr demonstratur.



TRACTATVS OCTAVVS^{us}
DE MICROSCOPIO,

Quo minutissima, & quasi inuisibilia, sic au-
gentur, vt clarè, distinctèq; con-
spiciantur.

Quarta Authoris inuentio.

Oculus, corporeus cum sit, corporeum exposcit obiectum:
hoc autem in paritate intrinsecè terminatur mimino,
ita ut non in quavis parua quantitate visibile sit. Reperitun-
tur verò in vniuerso aliqua, quæ sicut artificiosa, & mirabi-
lia sunt, ita parua existunt, quasi Natura indignabunda: hu-
mano oculo discerni, intra quantitatæ punctum, vt ita dicã,
ea abdidit: aliorum horum notas obseruationes, exem-
pligratia, infra in cap. 3. referam.

CAPVT I.

De inuatore huius specilli.

Inventionem hanc reperi in anno 1618. duo asse-
ro. Primò, dictum specillum antiquius non esse.
Secundò, me fuisse inuentorem in hac Cui-
tate Neapolitana, in qua hæc publici iuris sunt, limbo di-
ctum, quia vt etiam supra in alia mea inuentione teloscopij
dictum locum conuexarum infirmarum, omnes intellexi,
&

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The first method of passing an obstacle - "lock"



PLATE 1

The second method of passing an obstacle - "lock"

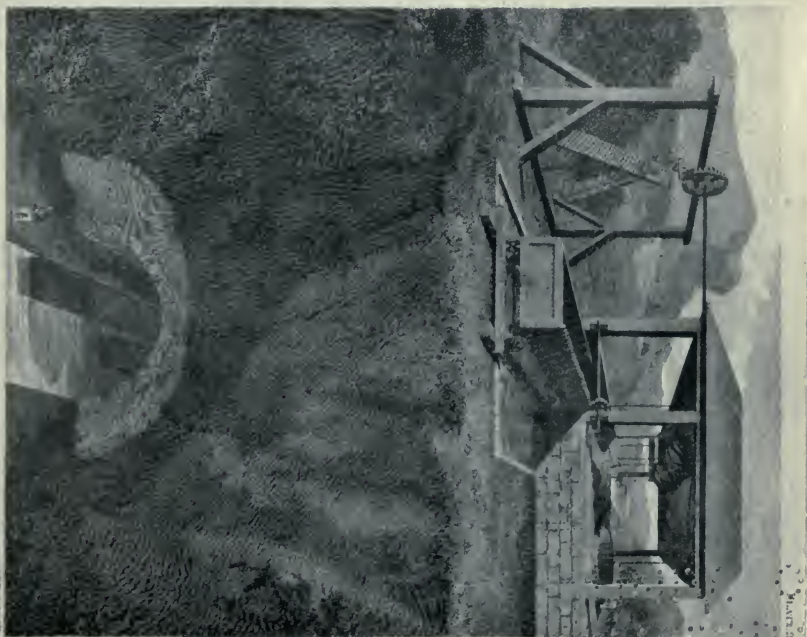


PLATE 2

Nos. 8181-2 (page 416).

A work on canal navigation by the pioneer of steam navigation.



Nos. 8221-2 (*page* 419).

Portrait of Galileo Galilei by Villamoena.

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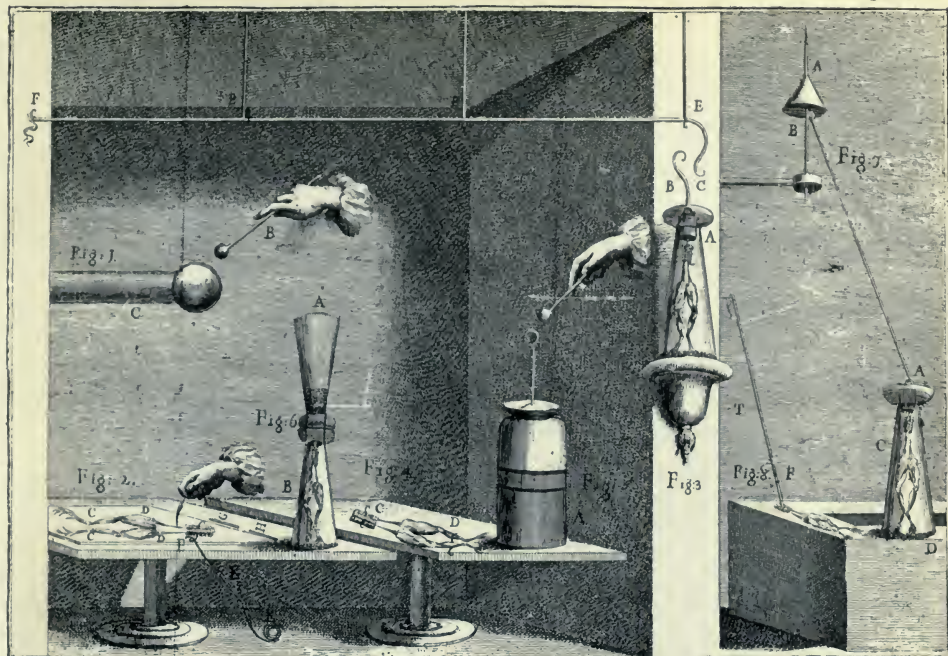
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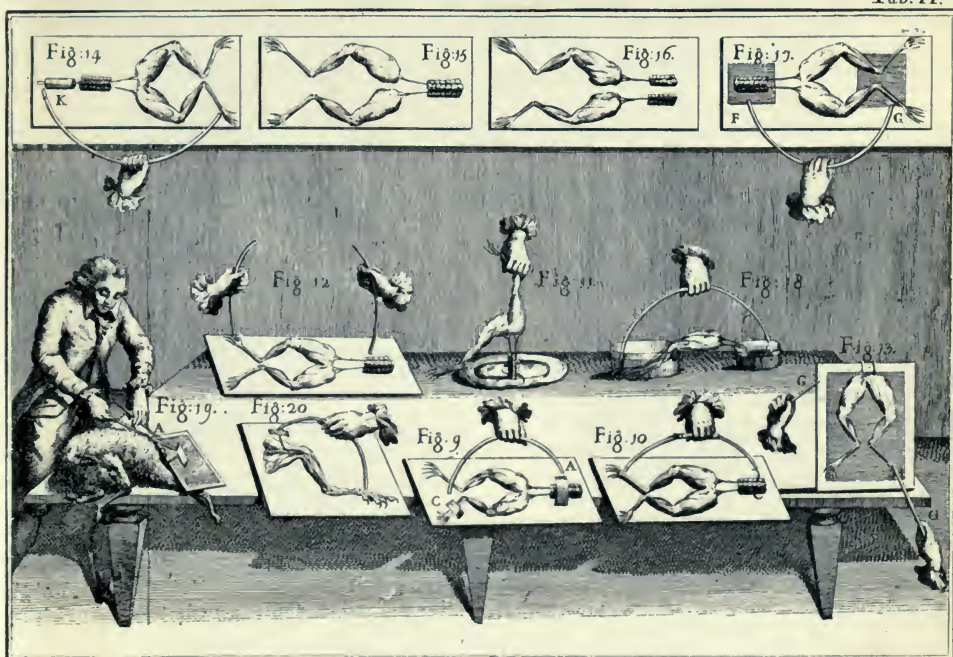
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Tab. I



Tab. II.



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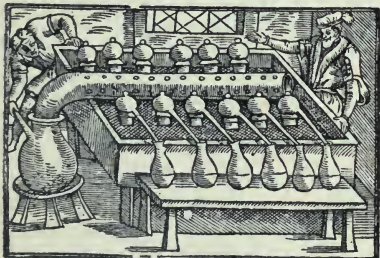
Printed at London, by Peter Short, 1599.

of Distillations.

28



There is also another fashion and manner of di-
stillling (saith a certaine Author) much vied of
the Chymists, which is wrought in Hori-
burg, whose heate is to be increased by the
fume or vapour of Aspyling water: after
this order. Let a wooden Coffer or Chest
be made, of sixe Flemish Elkes in length,
(or not above foure paces and a halfe of
our measure) and of such a breadth, that the same may com-
modiously containe of either side the vnyall bodies of Glasse: and
that there be no more left, than a space, by which the pipe may
passe and retch betwene the rotes of the Glasses, standing on
either side. This long Chest fill with dyse dung, mixed with the
chopped straw: after lift vp and set the same on a wooden forme
or Benche, to the ende, that it may stand the higher and commodi-
ousler, for the performance of the worke. These done, it be ha-

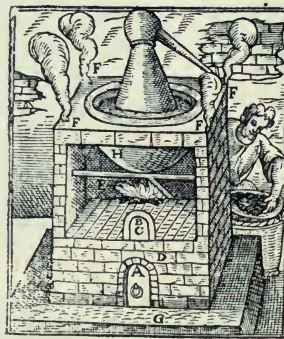


meth you order to dissolve the vnyall bodies, or Cucurbites of
Glasse in the Dung, with their heades aboue it, and regarding
(by their height) ouer the edge of the Chest on cyther side: to the
ende the Poles of the Tymbricks may the handfomer be luted
to the recepyng vessels: In the myddell betwene these vessels
must

of Distillations.

14

ning about the Grate, and the Grate figured with the letter D.
on which the Coales ought to lye, and the entrance of this dore
needeth to bee no larger, than that a man maye hardlie thrust in
his hande. About this, that two small barres of Iron (marked
with E) bee fixed a crosse: but one onlie, and these to serue for
the stronger staying of the Panne or Potte. Toward the toppe
in each corner aboue (marked with F) that foure vents or breas-
ting holes be made, and into the largest hole in the myddle (mar-
ked with H) a Panning set (being broader aboue and narrower be-
neath) reaching to the crosse barre, and the edge about moyle red
stronglie, that no heate of fire passe forth, betwene the brade of
the Panne and



scribed.

Also if a man will build a rounde Furnace, it behooveth him
to place the bent boles aboue, to rise from the bottom of the
Panne, and the Cucurbite, of Glasse, Tyme, or thine Copper
well tinned with in, to bee fed halfe full of steare into the panne, about

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